

10/643, 981

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:ssspta1204bxd

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS	1	Web Page URLs for STN Seminar Schedule - N. America
NEWS	2	"Ask CAS" for self-help around the clock
NEWS	3	May 12 EXTEND option available in structure searching
NEWS	4	May 12 Polymer links for the POLYLINK command completed in REGISTRY
NEWS	5	May 27 New UPM (Update Code Maximum) field for more efficient patent SDIs in Cplus
NEWS	6	May 27 Cplus super roles and document types searchable in REGISTRY
NEWS	7	Jun 28 Additional enzyme-catalyzed reactions added to CASREACT
NEWS	8	Jun 28 ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG, and WATER from CSA now available on STN(R)
NEWS	9	Jul 12 BEILSTEIN enhanced with new display and select options, resulting in a closer connection to BABS
NEWS	10	Jul 30 BEILSTEIN on STN workshop to be held August 24 in conjunction with the 228th ACS National Meeting
NEWS	11	AUG 02 IFIPAT/IFIUDB/IFICDB reloaded with new search and display fields
NEWS	12	AUG 02 Cplus and CA patent records enhanced with European and Japan Patent Office Classifications
NEWS	13	AUG 02 STN User Update to be held August 22 in conjunction with the 228th ACS National Meeting
NEWS	14	AUG 02 The Analysis Edition of STN Express with Discover! (Version 7.01 for Windows) now available
NEWS	15	AUG 04 Pricing for the Save Answers for SciFinder Wizard within STN Express with Discover! will change September 1, 2004
NEWS	16	AUG 27 BIOCOMMERCE: Changes and enhancements to content coverage
NEWS	17	AUG 27 BIOTECHABS/BIOTECHDS: Two new display fields added for legal status data from INPADOC
NEWS	18	SEP 01 INPADOC: New family current-awareness alert (SDI) available
NEWS	19	SEP 01 New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover!
NEWS	20	SEP 01 New display format, HITSTR, available in WPIDS/WPINDEX/WPIX
NEWS	21	SEP 14 STN Patent Forum to be held October 13, 2004, in Iselin, NJ
NEWS EXPRESS	JULY 30	CURRENT WINDOWS VERSION IS V7.01, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
NEWS HOURS		STN Operating Hours Plus Help Desk Availability
NEWS INTER		General Internet Information
NEWS LOGIN		Welcome Banner and News Items
NEWS PHONE		Direct Dial and Telecommunication Network Access to STN
NEWS WWW		CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 16:17:05 ON 14 SEP 2004

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'CAPLUS' ENTERED AT 16:17:17 ON 14 SEP 2004

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FILE COVERS 1907 - 14 Sep 2004 VOL 141 ISS 12

FILE LAST UPDATED: 13 Sep 2004 (20040913/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s cataly?

L1 1207996 CATALY?

=> s reduct?

424200 REDUCT?

821303 REDN

44517 REDNS

849207 REDN

(REDN OR REDNS)

L2 1087400 REDUCT?

(REDUCT? OR REDN)

=> s hydrogenat?

L3 256764 HYDROGENAT?

=> s l2 or l3

L4 1299917 L2 OR L3

=> s l1 and l4

L5 224466 L1 AND L4

=> s Ni or nickel

573448 NI

3631 NIS

575622 NI

```

(NI OR NIS)
558300 NICKEL
189 NICKELS
558327 NICKEL
(NICKEL OR NICKELS)
L6 775627 NI OR NICKEL

=> s copper or cu
816969 COPPER
415 COPPERS
817032 COPPER
(COPPER OR COPPERS)
763176 CU
4661 CUS
765163 CU
(CU OR CUS)
L7 1091254 COPPER OR CU

=> s chromium or cr
333603 CHROMIUM
74 CHROMIUMS
333606 CHROMIUM
(CHROMIUM OR CHROMIUMS)
375850 CR
1549 CRS
376837 CR
(CR OR CRS)
L8 513944 CHROMIUM OR CR
75% OF LIMIT FOR TOTAL ANSWERS REACHED

```

```

=> s l5 and l6
L9 40533 L5 AND L6

```

```

=> s regen?
L10 162143 REGEN?

```

```

=> s l9 and l10
L11 1162 L9 AND L10

```

```

=> s l11 and l7
L12 239 L11 AND L7

```

```

=> fil reg
COST IN U.S. DOLLARS          SINCE FILE          TOTAL
                                ENTRY          SESSION
FULL ESTIMATED COST          21.72          21.93

```

FILE 'REGISTRY' ENTERED AT 16:21:50 ON 14 SEP 2004
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Property values tagged with IC are from the ZIC/VINITI data file
 provided by InfoChem.

STRUCTURE FILE UPDATES: 13 SEP 2004 HIGHEST RN 744170-41-0
 DICTIONARY FILE UPDATES: 13 SEP 2004 HIGHEST RN 744170-41-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

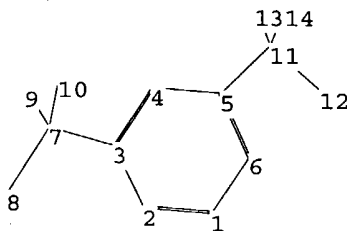
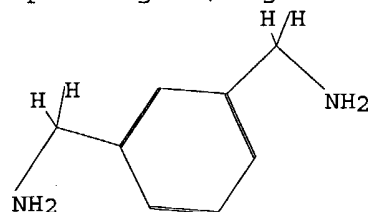
Please note that search-term pricing does apply when
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10643981.str



chain nodes :

7 8 9 10 11 12 13 14

ring nodes :

1 2 3 4 5 6

chain bonds :

3-7 5-11 7-8 7-9 7-10 11-12 11-13 11-14

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6

exact/norm bonds :

7-8 11-12

exact bonds :

3-7 5-11 7-9 7-10 11-13 11-14

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6

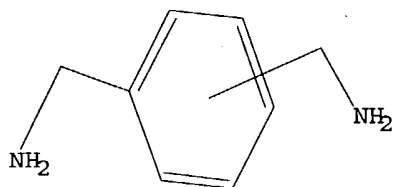
Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS

L13 STRUCTURE UPLOADED

=> d query

L13 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l13

SAMPLE SEARCH INITIATED 16:22:09 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 182573 TO ITERATE

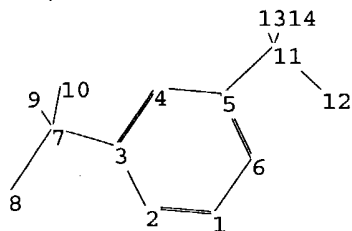
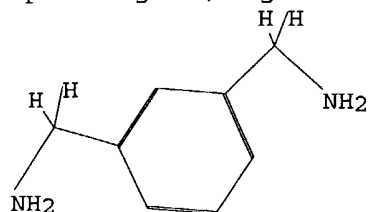
0.5% PROCESSED 1000 ITERATIONS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

1 ANSWERS

FULL FILE PROJECTIONS: ONLINE **INCOMPLETE**
BATCH **INCOMPLETE**
PROJECTED ITERATIONS: EXCEEDS 1000000
PROJECTED ANSWERS: EXCEEDS 2841

L14 1 SEA SSS SAM L13

=>
Uploading C:\Program Files\Stnexp\Queries\10643981.str



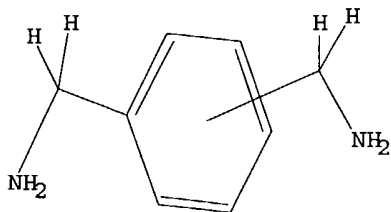
chain nodes :
7 8 9 10 11 12 13 14
ring nodes :
1 2 3 4 5 6
chain bonds :
3-7 5-11 7-8 7-9 7-10 11-12 11-13 11-14
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
7-8 11-12
exact bonds :
3-7 5-11 7-9 7-10 11-13 11-14
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS

L15 STRUCTURE UPLOADED

=> d query

L15 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l15

SAMPLE SEARCH INITIATED 16:23:02 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 182573 TO ITERATE

0.5% PROCESSED 1000 ITERATIONS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

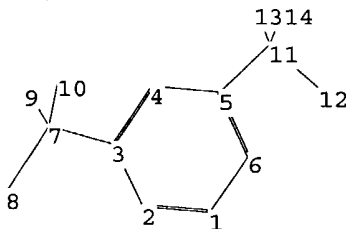
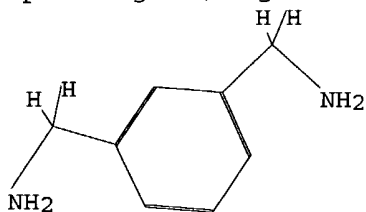
1 ANSWERS

FULL FILE PROJECTIONS: ONLINE **INCOMPLETE**
BATCH **INCOMPLETE**
PROJECTED ITERATIONS: EXCEEDS 1000000
PROJECTED ANSWERS: EXCEEDS 2841

L16 1 SEA SSS SAM L15

=>

Uploading C:\Program Files\Stnexp\Queries\10643981.str



chain nodes :

7 8 9 10 11 12 13 14

ring nodes :

1 2 3 4 5 6

chain bonds :

3-7 5-11 7-8 7-9 7-10 11-12 11-13 11-14

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6

exact/norm bonds :

7-8 11-12

exact bonds :

3-7 5-11 7-9 7-10 11-13 11-14

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6

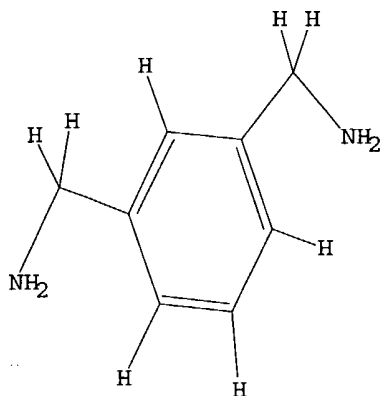
Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS

L17 STRUCTURE UPLOADED

=> d query

L17 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 117

SAMPLE SEARCH INITIATED 16:24:04 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 15002 TO ITERATE

6.7% PROCESSED 1000 ITERATIONS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

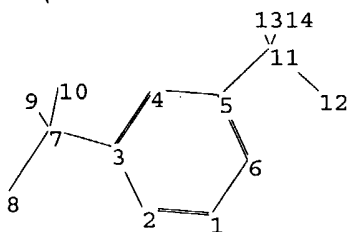
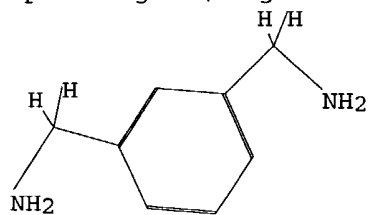
7 ANSWERS

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 292707 TO 307373
PROJECTED ANSWERS: 1486 TO 2714

L18 7 SEA SSS SAM L17

=>

Uploading C:\Program Files\Stnexp\Queries\10643981.str



chain nodes :
7 8 9 10 11 12 13 14
ring nodes :
1 2 3 4 5 6
chain bonds :
3-7 5-11 7-8 7-9 7-10 11-12 11-13 11-14
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6
exact/norm bonds :
7-8 11-12
exact bonds :
3-7 5-11 7-9 7-10 11-13 11-14
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6

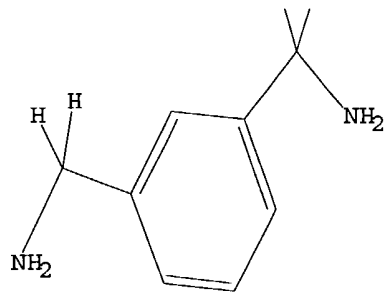
Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 10:CLASS
11:CLASS 12:CLASS 13:CLASS 14:CLASS

L19 STRUCTURE UPLOADED

=> d query

L19 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l19

SAMPLE SEARCH INITIATED 16:24:38 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 15002 TO ITERATE

6.7% PROCESSED 1000 ITERATIONS 7 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 292707 TO 307373
PROJECTED ANSWERS: 1486 TO 2714

L20 7 SEA SSS SAM L19

=> s l19 full

FULL SEARCH INITIATED 16:24:45 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 302263 TO ITERATE

100.0% PROCESSED 302263 ITERATIONS 1647 ANSWERS
SEARCH TIME: 00.00.02

L21 1647 SEA SSS FUL L19

=> fil caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	157.10	179.03

FILE 'CAPLUS' ENTERED AT 16:24:50 ON 14 SEP 2004
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FILE COVERS 1907 - 14 Sep 2004 VOL 141 ISS 12
FILE LAST UPDATED: 13 Sep 2004 (20040913/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l21
L22 3471 L21

=> d his

(FILE 'HOME' ENTERED AT 16:17:05 ON 14 SEP 2004)

FILE 'CAPLUS' ENTERED AT 16:17:17 ON 14 SEP 2004

L1 1207996 S CATALY?
L2 1087400 S REDUCT?
L3 256764 S HYDROGENAT?
L4 1299917 S L2 OR L3
L5 224466 S L1 AND L4
L6 775627 S NI OR NICKEL
L7 1091254 S COPPER OR CU
L8 513944 S CHROMIUM OR CR
L9 40533 S L5 AND L6
L10 162143 S REGEN?
L11 1162 S L9 AND L10
L12 239 S L11 AND L7

FILE 'REGISTRY' ENTERED AT 16:21:50 ON 14 SEP 2004

L13 STRUCTURE UPLOADED
L14 1 S L13
L15 STRUCTURE UPLOADED
L16 1 S L15
L17 STRUCTURE UPLOADED
L18 7 S L17
L19 STRUCTURE UPLOADED
L20 7 S L19
L21 1647 S L19 FULL

FILE 'CAPLUS' ENTERED AT 16:24:50 ON 14 SEP 2004

L22 3471 S L21

=> s l22 and l5
L23 90 L22 AND L5

=> s l23 and l6
L24 40 L23 AND L6

=> s l24 and l10

L25

5 L24 AND L10

=> d l25 1-5 abs ibib hitstr

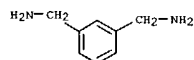
L25 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
AB Xylylenediamines are prepared by **hydrogenating** dicyanobenzenes in a liquid phase in the presence of a **catalyst**, where the **catalyst** having its activity decreased during the course of the **hydrogenation** of the dicyanobenzenes is contacted with a hydrogen-containing gas at 200-500° while controlling a temperature rise speed of the **catalyst** to 540°/min, thus **regenerating** the **catalyst** which can then be reused in subsequent **hydrogenations** of the dicyanobenzenes.

ACCESSION NUMBER: 2004:162518 CAPLUS
DOCUMENT NUMBER: 140:219730
TITLE: **Hydrogenation process and catalyst** for the production of xylylenediamines from dicyanobenzenes and a **regeneration** process for the **catalyst**
INVENTOR(S): Amakawa, Kazuhiko
PATENT ASSIGNEE(S): Japan
SOURCE: U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004039232	A1	20040226	US 2003-643981	20030820
JP 2004107327	A2	20040408	JP 2003-292139	20030812
EP 1394146	A1	20040303	EP 2003-18532	20030816

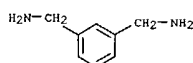
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
PRIORITY APPLN. INFO.: JP 2002-245222 A 20020826

OTHER SOURCE(S): CASREACT 140:219730
IT 1477-55-0P, m-Xylylenediamine
RL: IMF (Industrial manufacture); PREP (Preparation) (hydrogenation catalyst for the production of xylylenediamines from dicyanobenzenes and a regeneration process for the catalyst)
RN 1477-55-0 CAPLUS
CN 1,3-Benzenedimethanamine (9CI) (CA INDEX NAME)



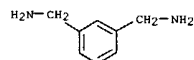
L25 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
AB Modified Raney Ni **catalysts** were used for the preparation of m-xylylenediamine (m-XDA) from isophthalonitrile (IPN) by **hydrogenation**, and effects of solvent, temperature, pressure and amount of **catalyst** were investigated. When mixture of MeOH and PhMe (resp. volume ratio 1:2) was used as solvent, conversion of IPN was nearly 100% and yield of m-XDA reached 97% at mixed solvent/IPN ratio 3:1, reaction temperature 343°K, pressure 6.0-7.0 MPa, and at **catalyst**/IPN weight ratio 1:9. The deactivated **catalyst** after **regeneration** can regain original activity and selectivity.

ACCESSION NUMBER: 2000:739236 CAPLUS
DOCUMENT NUMBER: 134:194832
TITLE: Synthesis of m-xylylenediamine by **hydrogenation** of isophthalonitrile with modified Raney Ni **catalyst**
AUTHOR(S): Shen, Qin; Liu, Zhong-Neng; Hou, Min-Bo; Lu, Xiao-Yuan
CORPORATE SOURCE: Shanghai Research Institute of Petrochemical Technology, SINOPEC, Shanghai, 201208, Peop. Rep. China
SOURCE: Jingxi Huagong (2000), 17(9), 544-546, 551
CODEN: JIHUFJ; ISSN: 1003-5214
PUBLISHER: Jingxi Huagong Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
IT 1477-55-0P, 1,3-Benzenedimethanamine
RL: IMF (Industrial manufacture); PREP (Preparation) (preparation of m-xylylenediamine by **hydrogenation** of isophthalonitrile in presence of modified Raney Ni catalyst)
RN 1477-55-0 CAPLUS
CN 1,3-Benzenedimethanamine (9CI) (CA INDEX NAME)



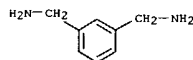
L25 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
AB Raney Ni **catalyst** modified by chemical **reduction** was used for liquid phase **hydrogenation** of isophthalonitrile (IPN) to prepare m-phenylenediamine (m-XDA). The activity of Raney Ni **catalyst** was improved greatly by introducing a and g element as modifier, and yield of m-XDA was increased from 85.1% to 97.0%. Service lifetime of the **catalyst** was prolonged from 1-2 times to 5 times, and deactivated **catalyst** could regain original activity after **regeneration**.

ACCESSION NUMBER: 2000:714722 CAPLUS
DOCUMENT NUMBER: 134:268028
TITLE: Study on **catalyst** for liquid phase **hydrogenation** of isophthalonitrile to prepare m-xylylenediamine
AUTHOR(S): Shen, Qin; Lu, Xiaoyuan; Hou, Minbo; Liu, Zhongneng
CORPORATE SOURCE: Shanghai Petrochemical Institute, Shanghai, 201208, Peop. Rep. China
SOURCE: Shanghai Huagong (2000), 25(17), 12-15
CODEN: SHAHE2; ISSN: 1004-017X
PUBLISHER: Shanghai Huagong Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
IT 1477-55-0P, 1,3-Benzenedimethanamine
RL: SPN (Synthetic preparation); PREP (Preparation) (cocatalyst study on Raney nickel-catalysed **hydrogenation** of isophthalonitrile)
RN 1477-55-0 CAPLUS
CN 1,3-Benzenedimethanamine (9CI) (CA INDEX NAME)



L25 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
AB M-Xylylenediamine was prepared by reducing the isophthalonitrile with hydrogen in the presence of Raney **nickel** promoted with iron and chromium. By utilizing this particular **catalyst**, it is not only possible to provide a drop in reaction temperature and an increase in rate of consumed hydrogen which is substantially above that obtained with Raney **nickel** alone, but also to attain yield of the desired product more than 80%. The deactivated **catalyst** was recovered to its original reactivity by simple process of **regeneration**.

ACCESSION NUMBER: 1999:666051 CAPLUS
DOCUMENT NUMBER: 131:352075
TITLE: Preparation of m-xylylenediamine with Raney Ni comprising iron and chromium
AUTHOR(S): Lu, Zihong; Zhu, Zhigang; Zhou, Congying
CORPORATE SOURCE: Dep. Chem. Eng., ECUST, Shanghai, 200237, Peop. Rep. China
SOURCE: Huadong Ligong Daxue Xuebao (1999), 25(3), 257-259
CODEN: HLIXEV; ISSN: 1006-3080
PUBLISHER: Huadong Ligong Daxue Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
IT 1477-55-0P, 1,3-Benzenedimethanamine
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of m-xylylenediamine by **reduction** of isophthalonitrile with Raney Ni comprising iron and chromium)
RN 1477-55-0 CAPLUS
CN 1,3-Benzenedimethanamine (9CI) (CA INDEX NAME)

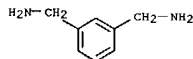


L25 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
AB A process for preparing a cyanoarylmethylamine by **hydrogenating**
only one of the two cyano groups of an aromatic dinitrile, which enables
the preparation of the amine in a high yield through the reaction of the
dinitrile
at a high conversion by the use of a small amount of a **catalyst**
under the reaction conditions of low temperature and low pressure. In
this process, at least one member selected from among activated Raney
catalysts prepared by treating Raney **catalysts** with
hydrogen in solvents and **regenerated** Raney **catalysts**
prepared by treating Raney **catalysts** with hydrogen in the presence
of alkalis in solvents is used as the **catalyst** in preparing a
cyanoarylmethylamine from an aromatic dinitrile. The amount of the
activated
Raney **catalyst** to be used is preferably 0.1 to 10 weight%, still
preferably 0.5 to 5 weight% based on the aromatic dinitrile and that of
the **regenerated** Raney **catalyst** to be used is preferably 0.1
to 50 weight%, still preferably 0.5 to 20 weight% based thereon. The
activated
Raney **catalyst** is preferably one containing **nickel** and/or
cobalt and prepared through activation in a solvent under a hydrogen
atmospheric,
while the **regenerated** Raney **catalyst** is preferably one
prepared by subjecting a Raney **catalyst** which has been used for
the preparation of a cyanoarylmethylamine from an aromatic dinitrile to
regeneration with hydrogen in a solvent in the presence of an
alkali.
ACCESSION NUMBER: 1998:543046 CAPLUS
DOCUMENT NUMBER: 129:161421
TITLE: Process for the preparation of cyanoarylmethylamine
INVENTOR(S): Miura, Motoo; Suyama, Yuseki; Kondo, Hideyuki;
Morikawa, Kouhei
PATENT ASSIGNEE(S): Showa Denko K.K., Japan
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9833767	A1	19980806	WO 1998-JP464	19980204
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
AU 9857799	A1	19980825	AU 1998-57799	19980204
EP 908447	A1	19990414	EP 1998-901507	19980204
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
IL 126443	A1	20030917	IL 1998-126443	19980204
JP 3528970	B2	20040524	JP 1998-532729	19980204

L25 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
US 6114277 A 20000905 US 1998-155450 19980930
NO 9804622 A 19981123 NO 1998-4622 19981002
PRIORITY APPLN. INFO.: WO 1997-JP270 W 19970204
WO 1998-JP464 A 19980204

OTHER SOURCE(S): CASREACT 129:161421
IT 1477-55-0P, m-Xylylenediamine
RL: BYP (Byproduct); PREP (Preparation)
(process for preparation of cyanoarylmethylamine)
RN 1477-55-0 CAPLUS
CN 1,3-Benzenedimethanamine (9CI) (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR
THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

=> d his

(FILE 'HOME' ENTERED AT 16:17:05 ON 14 SEP 2004)

FILE 'CAPLUS' ENTERED AT 16:17:17 ON 14 SEP 2004

L1 1207996 S CATALY?
L2 1087400 S REDUCT?
L3 256764 S HYDROGENAT?
L4 1299917 S L2 OR L3
L5 224466 S L1 AND L4
L6 775627 S NI OR NICKEL
L7 1091254 S COPPER OR CU
L8 513944 S CHROMIUM OR CR
L9 40533 S L5 AND L6
L10 162143 S REGEN?
L11 1162 S L9 AND L10
L12 239 S L11 AND L7

FILE 'REGISTRY' ENTERED AT 16:21:50 ON 14 SEP 2004

L13 STRUCTURE UPLOADED
L14 1 S L13
L15 STRUCTURE UPLOADED
L16 1 S L15
L17 STRUCTURE UPLOADED
L18 7 S L17
L19 STRUCTURE UPLOADED
L20 7 S L19
L21 1647 S L19 FULL

FILE 'CAPLUS' ENTERED AT 16:24:50 ON 14 SEP 2004

L22 3471 S L21
L23 90 S L22 AND L5
L24 40 S L23 AND L6
L25 5 S L24 AND L10

=> s (catalyst regeneration)

665986 CATALYST
670508 CATALYSTS
853598 CATALYST
(CATALYST OR CATALYSTS)
94665 REGENERATION
595 REGENERATIONS
94949 REGENERATION
(REGENERATION OR REGENERATIONS)
L26 4927 (CATALYST REGENERATION)
(CATALYST(W) REGENERATION)

=> s l26 and l4

L27 1176 L26 AND L4

=> s l27 and l6

L28 258 L27 AND L6

=> s temperature

498531 TEMPERATURE
72912 TEMPERATURES
562083 TEMPERATURE
(TEMPERATURE OR TEMPERATURES)
2718942 TEMP

700192 TEMPS

3027176 TEMP

(TEMP OR TEMPS)

SYSTEM LIMITS EXCEEDED - SEARCH ENDED

The search profile you entered was too complex or gave too many answers. Simplify or subdivide the query and try again. If you have exceeded the answer limit, enter DELETE HISTORY at an arrow prompt (=>) to remove all previous answers sets and begin at L1. Use the SAVE command to store any important profiles or answer sets before using DELETE HISTORY.

=> d l28 1-258 abs ibib

L28 ANSWER 1 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB A continuous and regenerative process for removing VOC from effluents and regenerating VOC loaded catalysts is provided. In particular, the process employs two fixed bed reactors in series filled with adsorbent/catalyst. The VOC containing effluent is passed over the first reactor for adsorbing VOC from the effluent, and part of the treated gas is made up with an appropriate amount of air or hot regenerator exhaust gas to form a regeneration gas. The regeneration gas is passed over the second reactor to regenerate the adsorbent/catalyst, which is loaded with VOC from the previous cycle and to convert the adsorbed VOC into innocuous compds. such as carbon dioxide and water. Just before the VOC breakthrough occurs at the first reactor, the effluent is switched to the second reactor while the regeneration gas is switched to the first reactor to start another operation cycle. The process is characterized by using fixed bed reactors of simple design, high VOC removal efficiency, requiring no or little external heat, high and flexible treating capacity, low costs of operation and maintenance and most importantly, safe and robust to operate.

ACCESSION NUMBER: 2004:331560 CAPLUS
 DOCUMENT NUMBER: 140:325891
 TITLE: Process for removing volatile organic compounds
 INVENTOR(S): Yan, Tsoung Y.; Chang, Jen-Ray
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 9 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004076568	A1	20040422	US 2002-274551	20021021
PRIORITY APPLN. INFO.:			US 2002-274551	20021021

L28 ANSWER 2 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The possible use of Ni in Heck reactions was investigated with use of the d. function theory method. It was found that the mechanisms of the Ni- and Pd-catalyzed Heck reactions are quite similar to each other. Nevertheless, oxidative addition and olefin insertion occur with lower energy barriers in the Ni system than in the Pd system. Because β -hydride elimination is more efficient in the Pd system than in the Ni system, there is a poorer selectivity to vinylation over Michael addition in the Ni system than in the Pd system. In addition, catalyst regeneration through HX removal is considerably harder to achieve with the Ni system than with the Pd system. Therefore, either a very strong base should be used for the Ni catalysis or a reductive pathway should be designed to remove HX from the Ni complex. Compared to the Pd system, oxidative addition of an alkenyl or aryl chloride is not much harder than oxidative addition of an alkenyl or aryl iodide in the Ni system. Therefore, the Ni-catalyzed Heck reaction may be applied to alkenyl or aryl chloride relatively easily. Also, because β -hydride elimination is more difficult in the Ni system than in the Pd system, the Ni-catalyzed Heck reaction may be applied to aliphatic halides. For an olefin with an electron-donating substituent, the Ni-catalyzed coupling should slightly favor the Markovnikov-type product, if the steric effect is not significant. For an olefin with an electron-withdrawing substituent, the Ni-catalyzed coupling should provide the anti-Markovnikov-type product as the major product. Phosphine and pyridine ligands can reasonably well reduce the free energy in the HX removal step, being promising ligands for the Ni-catalyzed Heck reactions. Solvent effects and change of the reaction mechanism to the cationic pathway (pre-dissociation of acido-ligand), and anionic pathway (pre-coordination of Cl-) do not change the general trends for the reactivities of the Ni and Pd catalysts.

ACCESSION NUMBER: 2004:252965 CAPLUS
 DOCUMENT NUMBER: 141:7261
 TITLE: Comparing Nickel- and Palladium-Catalyzed Heck Reactions
 AUTHOR(S): Lin, Bo-Lin; Liu, Lei; Fu, Yao; Luo, Shi-Wei; Chen, Qian; Guo, Qing-Xiang
 CORPORATE SOURCE: Department of Chemistry, University of Science and Technology of China, Hefei, 230026, Peop. Rep. China
 SOURCE: Organometallics (2004), 23(9), 2114-2123
 CODEN: ORGN7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 69 THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L28 ANSWER 3 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Xylylenediamines are prepared by hydrogenating dicyanobenzenes in a liquid phase in the presence of a catalyst, where the catalyst having its activity decreased during the course of the hydrogenation of the dicyanobenzenes is contacted with a hydrogen-containing gas at 200-500° while controlling a temperature rise speed of the catalyst to 540°/min, thus regenerating the catalyst which can then be reused in subsequent hydrogenations of the dicyanobenzenes.

ACCESSION NUMBER: 2004:162518 CAPLUS
 DOCUMENT NUMBER: 140:219730
 TITLE: Hydrogenation process and catalyst for the production of xylylenediamines from dicyanobenzenes and a regeneration process for the catalyst
 INVENTOR(S): Amakawa, Kazuhiko
 PATENT ASSIGNEE(S): Japan
 SOURCE: U.S. Pat. Appl. Publ., 7 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004039232	A1	20040226	US 2003-643981	20030820
JP 2004107327	A2	20040408	JP 2003-292139	20030812
EP 1394146	A1	20040303	EP 2003-18532	20030816
PRIORITY APPLN. INFO.:			JP 2002-245222	A 20020826

OTHER SOURCE(S): CASREACT 140:219730

L28 ANSWER 4 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Comps. for reduction of gas-phase reduced nitrogen species and NOx, generated from partial or incomplete combustion during fluid catalytic cracking, are comprised of: (1) 5.0 weight% of a non-zeolite acidic metal oxide, (2) ≥ 0.5 weight% of an alkali metal oxide or an alkaline earth metal oxide, (3) ≥ 0.1 weight% of a metal oxide oxygen storage component, and (4) ≥ 0.1 ppm of a noble metal component, preferably Rh or Ir. Preferably, the comps. are used as sep. additives particles circulated along with the circulating FCC catalyst inventory. Overall NOx emissions are decreased as the product combustion gas stream is passed from the cracking catalyst regenerator to a CO boiler, in which the CO is oxidized to CO2 and a decreased amount of the reduced nitrogen species is oxidized to NOx.

ACCESSION NUMBER: 2003:961164 CAPLUS
 DOCUMENT NUMBER: 140:6918
 TITLE: Nitrogen oxide emission reduction from petroleum cracking units using compositions containing exhaust gas catalysts and oxygen storage components
 INVENTOR(S): Yaluris, George; Rudesill, John Allen
 PATENT ASSIGNEE(S): W.R. Grace & Co.-Conn., USA
 SOURCE: U.S., 15 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6660683	B1	20031209	US 2002-274811	20021021
US 2004074811	A1	20040422	US 2003-642924	20030818
WO 2004037420	A1	20040506	WO 2003-US33478	20031021
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, BG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, ZW, AM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LJ, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRIORITY APPLN. INFO.:			US 2002-274811	A3 20021021

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L28 ANSWER 5 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
AB A method for regenerating spent supported metal catalysts comprising
treating the spent catalyst with an organo-metallic complex forming agent
having an ionization constant pK 1 of at least 2.5. The catalyst
activity
is restored to an activity level near to or greater than the fresh
catalyst. The regeneration method is particularly useful for
regenerating
spent palladium catalysts on an alumina support as utilized for the
hydrogenation of Et anthraquinone (EAQ) in the production of hydrogen
peroxide.
ACCESSION NUMBER: 2003:912824 CAPLUS
DOCUMENT NUMBER: 140:9216
TITLE: Regeneration of spent supported metal catalysts
INVENTOR(S): Zhou, Bing; Rueter, Michael
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of U.S.
Ser. No. 745,510.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003216245	A1	20031120	US 2002-326042	20021220
US 2002115554	A1	20020822	US 2000-745510	20001222
US 6740615	B2	20040525		
WO 2004060553	A1	20040722	WO 2003-US9216	20030325
W: AT, CA, CN, IN, JP, MX				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
PRIORITY APPLN. INFO.:				US 2000-745510 A2 20001222
				US 2002-326042 A 20021220

L28 ANSWER 6 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
AB Spent metal oxide desulfurization sorbents, in petroleum desulfurization
units, are regenerated by oxidizing the sulfided metal oxides (i.e., at
200-850°), followed by reduction, especially with hydrogen gas.
The sorbents are derived from oxides of Fe, Ni, Cu, Co, and Zn
(preferably Cu, Ni, or Co), and can contain one or more
secondary metals to increase regeneration efficiency or capacity.
Suitable regeneration rate enhancing components are Group VIII noble
metals, which decreases the regeneration period by ≥30%. In addition,
additives for suppression of hydrocarbon cracking can be added (e.g.,
1-10 weight% Cu, Ag, Au, Sn, and Pb, and Group IB, Group IVA, Group VIA
elements).
The method can be used also for regeneration of spent
hydrodesulfurization
catalysts, especially those derived from Mo, W, Fe, Co, Ni, Pt, Pd,
Ir, and Rh.
ACCESSION NUMBER: 2003:903193 CAPLUS
DOCUMENT NUMBER: 139:367283
TITLE: Regeneration of spent metal oxides and metal
catalysts
for petroleum desulfurization and
hydrodesulfurization
by oxidation and reduction steps
INVENTOR(S): Chen, Jingguang G.; Brown, Leo D.; Baird, William C.,
Jr.; Mcvicker, Gary B.; Ellis, Edward S.; Touville,
Michele S.; Klein, Darryl P.; Vaughan, David E. W.
PATENT ASSIGNEE(S): ExxonMobil Research and Engineering Company, USA
SOURCE: U.S., 7 pp., Cont.-in-part of U.S. Ser. No. 326,827.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 10
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6649043	B1	20031118	US 2000-620865	200000721
US 5935420	A	19990810	US 1997-918641	19970822
US 6221240	B1	20010424	US 1999-326827	19990607
WO 2002008160	A1	20020131	WO 2001-US22733	20010719
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1309528	A1	20030514	EP 2001-957188	20010719
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004504143	T2	20040212	JP 2002-514070	20010719
NO 2003000289	A	20030319	NO 2003-289	20030120
PRIORITY APPLN. INFO.:				US 1996-24737P P 19960823
				US 1997-918641 A2 19970822
				US 1999-326827 A2 19990607

L28 ANSWER 6 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN (Continued)
US 2000-620865 A 20000721
WO 2001-US22733 W 20010719

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR
THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L28 ANSWER 7 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
AB Synthesis gas (CO/H₂) is produced by passing light hydrocarbons
containing 50
volumes of methane over a catalyst in a reaction zone in the absence of
gaseous oxygen by a net catalytic partial oxidation (CPOX) reaction. A
catalyst composition contains an oxidatively reducible source of lattice
oxygen
in the form of a transition metal oxide, a lanthanide oxide, or their
mixts. and a catalytically active compound deposited on the reducible
metal
oxide. The transition metal of the reducible metal oxide can be Zr, V,
W,
Mo, Mn, Ti, Cu, Re, and Ru. The lanthanide element is Ce or La. The
catalytically active compound is Rh, Pt, Pd, Ru, Ir, Os, Ni, Co,
Fe, Mn, or Cr. The reduced metal and/or lower valence metal oxide are
reoxidized in a sep. reaction zone or by alternating syngas and
regenerant
processes. The partially reduced catalyst can be regenerated to the
active (more oxidized) oxidation state in a second reaction zone using
oxygen, atmospheric air or process steam. The second reaction zone is
purged
with N₂, Ar, or He prior to re-oxidizing the catalyst. The partial
oxidation
process to produce syngas is carried out at 200-10,000 kPa and
350-2000°C whereby the gas is passed over the catalyst at a gas
hourly space velocity of 1,000,000/h with a catalyst residence time of
≤ 5 ms. A combustible gas is added to the reaction mixture
sufficient to initiate an exothermic catalytic partial oxidation
reaction.
The reaction mixture is preheated to 30-750°C.

ACCESSION NUMBER: 2003:696826 CAPLUS
DOCUMENT NUMBER: 139:216769
TITLE: Oxidation catalyst and gaseous O₂-free processes for
the production of synthesis gas
INVENTOR(S): Ramani, Sriam; Allison, Joe D.; Wright, Harold A.;
Jack, Doug S.
PATENT ASSIGNEE(S): Conoco Inc., USA
SOURCE: FCT Int. Appl., 21 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003072490	A1	20030904	WO 2002-US40284	20021216
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TH				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, RF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:				US 2002-359225P P 20020222

L28 ANSWER 7 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L28 ANSWER 8 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB There is provided a process for hydrocarbon synthesis wherein a supported
metal catalyst for **hydrogenating** carbon monoxide to form a mixture
of hydrocarbons is regenerated by decreasing its hydrocarbon content,
impregnating under a non-oxidative atmospheric with a solution of at
least one
member of the group of ammonium salts (e.g., ammonium acetate),
alkylammonium salts, and weak organic acids, optionally including
ammonia,
oxidizing with a gaseous oxidant (e.g., air) in the presence of the
impregnating solution, activating the catalyst by **reduction** with
hydrogen at elevated temps., and reusing the catalyst. The treatment may
be carried out in a single reactor, or by carrying out all of the steps
after catalyst has been withdrawn therefrom and returned to at least one
reactor. Up to all steps subsequent to decreasing the hydrocarbon
content
may be effected in a subsequent reactor, or in specialized apparatus
ACCESSION NUMBER: 2003:610393 CAPLUS
DOCUMENT NUMBER: 139:151409
TITLE: Process for Fischer-Tropsch catalyst
regeneration in the manufacture of C10+
hydrocarbons from synthesis gas
INVENTOR(S): Koveal, Russell John; Daage, Michel; Shen, Eric
Baochun
PATENT ASSIGNEE(S): ExxonMobil Research and Engineering Company, USA
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003064356	A1	20030807	WO 2003-US202	20030103
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2003166451	A1	20030904	US 2002-59916	20020129
US 6753354	B2	20040622	US 2002-59916	A 20020129

PRIORITY APPLN. INFO.:
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L28 ANSWER 9 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A process for regenerating the activity of used-metal catalysts for the
hydrogenation of carbon monoxide is described comprising
decreasing the hydrocarbon (i.e., dewaxing) content of the spent
catalyst,
calcining the dewaxed catalyst under an oxidant-containing atmospheric,
impregnating
the calcined catalyst with a solution of at least one of a metal
compound,
recalcining the metal salt-impregnated catalyst under an
oxidant-containing
atmospheric, and activating the recalcined catalyst by contacting it
with a
hydrogen-containing gas at elevated temps. The process regenerates and
enhances both supported and dispersed active metal (DAM) catalysts. Used
catalysts enhanced by the process are initially treated to decrease their
hydrocarbon content. The treatment may be carried out in a single
reactor, or by carrying out up to all steps after catalyst may be
withdrawn from a reactor and returned to at least one reactor, both
preferably during operation thereof. Up to all steps may be effected in
a
subsequent reactor, or in specialized apparatus
ACCESSION NUMBER: 2003:590845 CAPLUS
DOCUMENT NUMBER: 139:135213
TITLE: Process for the regeneration of carbon monoxide
hydrogenation catalysts
Daage, Michel; Koveal, Russell John; Chang, Min
INVENTOR(S):
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003144366	A1	20030731	US 2002-59926	20020129
WO 2003064034	A2	20030807	WO 2003-US150	20030103
WO 2003064034	A3	20031127		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.:
US 2002-59926 A 20020129

L28 ANSWER 10 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Regeneration of spent supported metal catalysts for CO
hydrogenation reactions (e.g., Co, Ni, Cu, Ru, Rh, Re,
Pd, Pt, Os, and Ir) is carried out by a sequential process consisting of:
(1) decreasing the hydrocarbon content on the catalyst, (2) impregnating,
under non-oxidative atmospheric, with a solution of a weak organic acid,
until the
catalyst has absorbed >10 volume% (preferably 10-1000%) of its
calculated pore
volume, (3) oxidizing with a gaseous oxidant in the presence of the weak
organic acid, and (4) reducing the catalyst with a hydrogen-containing
gas to
form the active catalyst. Hydrocarbons on the catalyst (especially for
Fischer-Tropsch catalysts) can be removed by contacting the catalyst with
one or more of the following: (1) a hydrogen-containing gas, (2) a
solvent or
supercrit. fluid, or (3) an oxygen-containing gas or steam. Optionally,
the
catalyst is calcined after the oxidation step, and passivated after the
activation step. A preferred means of decreasing the hydrocarbon content
of the catalyst is contacting it with a hydrogen-containing gas at high
temps.
The organic acid has the general formula R(COOH)_n (n = 1-3; R is a
cyclic,
aliphatic, saturated, or unsatd. moiety substituted with one or more
NO₂, NH₂,
OH, and alkoxy).
ACCESSION NUMBER: 2003:590798 CAPLUS
DOCUMENT NUMBER: 139:119731
TITLE: Combined solvent extraction-oxidation-
reduction-acid washing for regeneration of
used supported catalysts for carbon monoxide
hydrogenation
Clack, Janet Renee; Koveal, Russell John; Daage,
Michel
INVENTOR(S):
PATENT ASSIGNEE(S): Exxonmobil Research and Engineering Co., USA
SOURCE: U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003144129	A1	20030731	US 2002-59917	20020129
US 6753286	B2	20040622		
WO 2003064033	A1	20030807	WO 2002-US41512	20021227
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.:
US 2002-59917 A 20020129

L28 ANSWER 10 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
OTHER SOURCE(S): MARPAT 139:119731
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L28 ANSWER 11 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Supported metal catalysts for the **hydrogenation** of carbon
monoxide to form a mixture of hydrocarbons are regenerated by decreasing
the hydrocarbon content of the catalyst, preferably by contact with
hydrogen-containing gas at elevated temps., impregnating under a
non-oxidizing atmospheric with a solution of at least one of an ammonium salt and an
alkyl ammonium salt, optionally in combination with up to five moles of ammonia
per L of solution to the point where it has absorbed a volume of
solution equal to at least .apprx.10% of its calculated pore volume; oxidizing the
catalyst with a gaseous oxidant in the presence of the impregnating solution and
activating the catalyst by **reduction** with hydrogen at elevated temps.
Optionally, the catalyst is calcined after the oxidation step, and
passivated after the activation step.
ACCESSION NUMBER: 2003:590797 CAPLUS
DOCUMENT NUMBER: 139:119730
TITLE: Supported catalyst treatment
INVENTOR(S): Daage, Michel; Koveal, Russell John; Clark, Janet
Renee; Marler, David Owen
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 13 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003144128	A1	20030731	US 2002-59928	20020129
US 6787496	B2	20040907		
WO 2003064040	A1	20030807	WO 2002-US41513	20021227
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			US 2002-59928	A 20020129

L28 ANSWER 12 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The combustion process is carried out in presence of a primary NOx
reducing catalyst coating which is treated when required by means of
cerium/europium compound in presence of water vapor and advantageously in
presence of a nanoparticulate refractory clay material, such as hydrated
aluminum silicate. The primary NOx reducing catalyst comprises at least
one atom selected from the group consisting of Ce, Pt, Pd, Cu, W, Pr, Sc,
Si, Ga, Ru, Mo, Ni, Ti, Co, Rh, Mg, Ca, La, Eu, Y, Yb, Si and
mixts. thereof, preferably Ce, Eu, Pr or Yb. The process of the
invention
can be operated in a closed chamber (with intermittent opening of door(s)
or valve(s)) or in an open chamber, such as a boiler, reformer, fuel
cells, kiln, incinerator, ovens, steel works, power station, explosion
chamber, turbines, burner, central heating system, grass cutting machine,
HCCI (heterogeneous charge compression ignition), CAl or homogeneous
combustion engine, rocket, guns, flat engines, space shuttle, air planes,
furnaces, propellant, pulsation combustion, auto inflammation engine,
etc.
ACCESSION NUMBER: 2003:300941 CAPLUS
DOCUMENT NUMBER: 138:308425
TITLE: Combustion process
INVENTOR(S): Bosteels, Dominique
PATENT ASSIGNEE(S): Ire.
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003031030	A2	20030417	WO 2002-BE156	20021010
WO 2003031030	A3	20040318		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003234012	A1	20031225	US 2002-268629	20021010
WO 2004033867	A2	20040422	WO 2003-BE170	20031009
WO 2004033867	A3	20040729		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			US 2001-328352P	P 20011010

L28 ANSWER 12 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
WO 2002-BE156 A 20021010

L28 ANSWER 13 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent nickel catalysts (SNC) used in the edible oil industry to hydrogenate liquid oil have the potential of polluting the environment in a number of ways. The recovery of fat from the SNC could prevent environmental pollution and reduce the oil loss. Hexane was the solvent of choice for oil extraction. Alternative solvents that are considered safer were evaluated. Hexane, isopropanol, ethanol, and heptane were examined using soxhlet extraction. While hexane was more efficient in oil recovery from SNC, isopropanol proved to be very efficient in separating oil from the waste material and it could be more easily recovered compared to other solvents. Cooled isopropanol extraction provided separation of miscella into two phases: lower oil-rich and an upper solvent-rich. An aqueous extraction process assisted by an immiscible solvent was tested.
 ACCESSION NUMBER: 2003:98914 CAPLUS
 DOCUMENT NUMBER: 138:342986
 TITLE: Processing of spent nickel catalyst for fat recovery
 AUTHOR(S): Nasir, Mohammad Ibrahim
 CORPORATE SOURCE: Research Department, Jahan Vegetable Oil Co., Tehran, 19697, Iran
 SOURCE: Grasas y Aceites (Sevilla, Spain) (2002), 53(2), 213-217
 CODEN: GRACAN; ISSN: 0017-3495
 PUBLISHER: Instituto de la Grasa
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L28 ANSWER 14 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The stability of a previously developed stationary-layer modified Ni catalyst for hydrogenation of cottonseed oil was confirmed by monitoring catalytic activity over 350 h at 220°. The selection of conditions for catalyst reactivation are outlined, including the use of a synthetic detergent (Omo).
 ACCESSION NUMBER: 2003:62861 CAPLUS
 DOCUMENT NUMBER: 138:254086
 TITLE: Time-dependent activity of a catalyst
 AUTHOR(S): Karimkulova, M. P.; Iskandarov, Sh. A.; Abidova, M. F.
 CORPORATE SOURCE: Uzb. Nauchno-Issled. Khim.-Farm. Inst. im. A. Sultanova, Uzbekistan
 SOURCE: O'zbekiston Kimyo Jurnali (2002), (4), 67-71
 CODEN: OKJZA6; ISSN: 0042-1707
 PUBLISHER: Izdatel'stvo Fan
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 15 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A two-stage method for contacting of gases and solids in a bubbling fluidized-bed reactor (for catalytic and noncatalytic reactions) was developed in which the first stage involves fluidization with bubbling, and the second stage involves the formation of the bubbling bed. In the first stage, a primary gas, containing the reactant(s), is introduced into the reactor (with bed length to bed diameter ratio .ltorsim.5.0:1) through a primary gas distributor located at the reactor bottom at a superficial gas velocity, Up, that is close or equivalent to the min. fluidization velocity, Umf, required to obtain an emulsion phase with little or no formation of gas bubbles. In the second stage, gas bubbles in the incipiently fluidized bed (formed in stage I) are formed by introducing a secondary gas through a secondary gas distributor located immediately above the primary gas distributor. This secondary gas is selected from one of the reactants which is used in excess of that required for reaction stoichiometry (e.g., steam), at a superficial gas velocity, Us. Us is related to the Up (of the primary gas) such that a Us/Up is 0.5-10.0:1, preferably 1-5:1. Typical reactions that can be handled by the bubbling fluidized bed include vapor-phase hydrogenation of nitrobenzene and nitrotoluene isomers to aniline and the corresponding toluidine, methane conversion to synthesis gas, ammoxidn. of propylene to acrylonitrile, propylene oxidation to acrolein, oxidation of acrolein to acrylic acid, regeneration of coked hydrocarbon cracking catalyst, ethane oxychlorination, Fischer-Tropsch reaction, and heavy oil hydrocracking.
 ACCESSION NUMBER: 2002:927867 CAPLUS
 DOCUMENT NUMBER: 138:26375
 TITLE: Two-stage method for gas-solid contact in bubbling fluidized-bed reactors for catalytic and non-catalytic reactions
 INVENTOR(S): Choudhary, Vasant Ramchandra; Choudhary, Tushar Vasant
 PATENT ASSIGNEE(S): Council of Scientific & Industrial Research, India
 SOURCE: U.S. Pat. Appl. Publ., 10 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002179489	A1	20021205	US 2001-817744	20010326
US 2004122116	A1	20040624	US 2003-925723	20031202
PRIORITY APPLM. INFO.:			US 2001-817744	A3 20010326

L28 ANSWER 16 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The article is focused on potential utilization of catalysts in tar removal from biomass gases. In the theor. part it deals with the use of catalytic purification and application of reforming and prereforming catalysts.
 , The processes occurring on the catalyst and their mechanisms including carbon formation and catalyst deactivation are described and minimization of the undesirable processes is discussed. A laboratory method for selection of an appropriate catalyst is described in the exptl. part. Several com. available reforming and prereforming nickel catalysts were tested. In application of classic reforming catalysts, temps. higher than 700°C and steam excess must be used to minimize deactivation. If the gas does not contain sulfur compds. and catalyst regeneration proceeds in the catalytic unit, active prereforming catalysts can be already used at 450-550°C.
 ACCESSION NUMBER: 2002:880370 CAPLUS
 DOCUMENT NUMBER: 138:290381
 TITLE: Application of catalysts for tar removal during biomass gasification
 AUTHOR(S): Marsak, J.; Skoblja, S.
 CORPORATE SOURCE: Department of Gas Manufacture, Institute of Chemical Technology, Prague, Czech Rep.
 SOURCE: Chemické Listy (2002), 96(10), 813-820
 CODEN: CHLSAC; ISSN: 0009-2770
 PUBLISHER: Ceska Spolecnost Chemicka
 DOCUMENT TYPE: Journal
 LANGUAGE: Czech

L28 ANSWER 17 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
AB The title regeneration process for petroleum refining
hydrogenation catalysts with groups VIB, VIIB, and VIII metals as
active components comprises reducing the deactivated catalyst with H2 at
200-350°C to remove sulfur, and oxidizing to remove carbon at
220-250°C for 2-6 h, at 280- 350°C for 1-4 h, and at
480-550°C for 2-4 h. The process is simple and can restore the
catalyst activity.

ACCESSION NUMBER: 2002:801730 CAPLUS
DOCUMENT NUMBER: 137:284883
TITLE: Catalyst regeneration process
INVENTOR(S): Zhang, Xiwen; Sun, Wanfu; Zhao, Changzhi; Zhang,
Shumei; Wang, Shaojun
PATENT ASSIGNEE(S): China Petrochemical Corp., Ltd., Peop. Rep. China;
Fushun Research Institute of Petroleum Processing,
Sinopec
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 9 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1335202	A	20020213	CN 2000-110718	20000724
CN 1120051	B	20030903	CN 2000-110718	20000724

PRIORITY APPLN. INFO.: CN 2000-110718 20000724

L28 ANSWER 18 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
AB Process is disclosed for regeneration of solid catalysts or solid
adsorbents wherein the catalyst or the adsorbent is used in the form of a
bed moving in a regeneration zone. The process contains 21 heating
step under a reducing atmospheric (e.g., a H-containing atmospheric) at
250-650°

(preferably at 300-550°). Typically, the procedure is suitable for
regeneration of hydrogenation catalysts and adsorbents for their
protection (e.g., s traps, S guard beds).
ACCESSION NUMBER: 2002:504691 CAPLUS
DOCUMENT NUMBER: 137:64897
TITLE: Regeneration method for heterogeneous catalysts and
adsorbents
INVENTOR(S): Robinson, James; Brahma, Nilanjan; Mendakis, Georges;
Locatelli, Francois; Dufresne, Pierre
PATENT ASSIGNEE(S): Europeenne de Retraitement de Catalyseurs Eurecat,
Fr.
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002051548	A1	20020704	WO 2000-EP13237	20001222
W: CA, CN, JP, SG				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1345693	A1	20030924	EP 2000-985253	20001222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004516927	T2	20040610	JP 2002-552682	20001222
US 2002098971	A1	20020725	US 2001-764147	20010119
US 2004043890	A1	20040304	US 2003-434365	20030509

PRIORITY APPLN. INFO.: WO 2000-EP13237 W 20001222
US 2001-764147 B1 20010119

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L28 ANSWER 19 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
AB Fischer-Tropsch catalysts for hydrocarbon manufacture are dispersed
active
metal-type catalysts that are not immobilized, and consist of one or more
Group VIII metals and copper, in which the catalyst activity is enhanced
during reactor operation by: (1) withdrawing a mixture of hydrocarbons
and catalyst from the reactor, (2) reducing the hydrocarbon content, (3)
heating the mixture in a non-oxidizing atmospheric to a temperature
above the melting
temperature of at least one of the catalyst metals to remove non-metallic
impurities and to form a slag of refractory metal oxides, (4) removing
any
slag, if present, (5) cooling and solidifying the melt, (6) size
reduction of the melt to a fine powder, and (7) returning the catalyst
to the reactor. If the catalyst is a Raney catalyst, a leachable metal
is
added to the hydrocarbon-depleted mixture or melt under non-oxidizing
conditions and extracting the leachable metal with caustic after step
(6). The
catalysts can be passivated prior to being returned to the reactor. The
activity of the catalyst may be modified or enhanced by addition of
promoter
metals or, prior to being returned to the reactor, by slurry
low-temperature
oxidation followed by reduction at elevated temperature The catalysts
can be
passivated prior to being returned to the reactor.

ACCESSION NUMBER: 2002:185040 CAPLUS
DOCUMENT NUMBER: 136:234529
TITLE: Melt formation with caustic extraction of Raney
alloys
INVENTOR(S): in method for reactivation of spent and deactivated
Fischer-Tropsch catalysts
Daage, Michel A.; Koveal, Russell John; Long, David
Chester; Clavenna, Leroy Russell; Ramanarayanan,
Trikur Anantharaman; Mumford, James Dirickson;
Culross, Claude Clarence
PATENT ASSIGNEE(S): ExxonMobil Research and Engineering Company, USA
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020441	A1	20020314	WO 2001-US25156	20010810
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 6624204	B1	20030923	US 2000-653914	20000901
AU 2001081234	A5	20020322	AU 2001-81234	20010810

L28 ANSWER 19 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN (Continued)
EP 1313686 A1 20030528 EP 2001-959707 20010810
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
PRIORITY APPLN. INFO.: US 2000-653914 A 20000901
WO 2001-US25156 W 20010810

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L28 ANSWER 20 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent nickel catalyst (SNC) has the potential of insulating the quality of the environment in a number of ways. Its disposal has a pollution effect. Optimum recovery of fat from SNC, could save the environment and reduce the oil loss. Hexane has been the solvent of choice for oil extraction. Alternative solvents considered to have been safer have been evaluated. Hexane, isopropanol, ethanol and heptane were examined using Soxhlet extraction. While hexane is more efficient in oil recovery from SNC, isopropanol proved to be very good in clear separation of oil from waste material and also provides high solvent recovery compared to other solvents. Isopropanol extraction with chill separation of miscella into lower oil-rich phase, and an upper, solvent-rich recyclable phase save much energy of vaporization for distilling. An aqueous extraction process with immiscible solvent assisted was tested. Solvent like hexane added to SNC, and water added later with continuous stirring. The mixture was stirred for about 30 min, prior to centrifugation. Aqueous process extracted less amount of oil compared to solvent extraction.

ACCESSION NUMBER: 2001:620412 CAPLUS
 DOCUMENT NUMBER: 135:343576
 TITLE: Processing of spent nickel catalyst for fat recovery
 AUTHOR(S): Nasir, Mohammad Ibrahim
 CORPORATE SOURCE: Research Department, Jahan Vegetable Oil Co., Tehran, 19697, Iran
 SOURCE: Ciencia e Tecnologia de Alimentos (2001), 21(1), 10-13
 PUBLISHER: Sociedade Brasileira de Ciencia e Tecnologia de Alimentos
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L28 ANSWER 21 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The exhaust gas-purifying catalyst is that prepared by applying a composition containing a metal catalyst-bearing support, an electron-conducting material, and an ion-conducting material on a substrate. Alternatively, the catalyst is made of a composition containing the metal catalyst-bearing support and an ion-conducting material, which is applied on an electron-conducting substrate. The catalyst, after S-poisoning, is desulfurized by heating so that reduction of the S compound, adsorbed on the metal catalyst, by a reducing agent and oxidation of the reducing agent are electrochem. performed as a result of transportation of electrons through the electron-conducting material and of transportation of ions through the ion-conducting material.

ACCESSION NUMBER: 2001:388668 CAPLUS
 DOCUMENT NUMBER: 134:371126
 TITLE: Exhaust gas purifying catalyst and regeneration of sulfur-poisoned catalyst by electrochemical process
 INVENTOR(S): Mitsuda, Noriaki; Katashiba, Hideaki; Ouchi, Hiroshi; Kishimoto, Yuji
 PATENT ASSIGNEE(S): Mitsubishi Electric Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001145837	A2	20010529	JP 1999-331138	19991122
PRIORITY APPLN. INFO.:			JP 1999-331138	19991122

L28 ANSWER 22 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB NOx emissions contribute for acid rain, greenhouse effect and formation of ozone in the atmospheric. Because of that, environmental demands are forcing the reduction of NOx emissions in mobile and static sources. On the other hand, due to the increase of cracking of heavy feed stock, oil refineries are emitting more sulfur and nitrogen compounds. Hence, the reduction and understanding of conditions that affect NOx emissions has a great importance. This work evaluates the effect of contaminant metals in catalyst and the regeneration conditions on the NOx emission in the conditions of FCC process. Typical resid cracking catalyst containing contaminant metals were tested. Different metal levels were obtained by d. separation of an equilibrium catalyst. A simulated equilibrium catalyst was also tested for comparison. NO reduction was made in typical conditions of an FCC regenerator. Partial and total combustion were simulated varying relative amount of CO and O2. NO reduction to N2 varied with the type of combustion and amount of Ni and V in the catalyst. NO reduction in total combustion was very low. For partial combustion, the amount of NO reduced varied according to the amount of contaminant metals in the catalyst. This way, evaluating of NOx additives must be done taking into account catalyst regeneration condition in the unit and the amount of Ni and V in the equilibrium catalyst.

ACCESSION NUMBER: 2001:197768 CAPLUS
 TITLE: NOx reductions under fluid catalytic cracking conditions
 AUTHOR(S): Roncolato, Rodolfo; Mello, Leonardo
 CORPORATE SOURCE: Catalysis, Centro Pesquisas e Desenvolvimento da Petrobras, Rio de Janeiro, N/A, Brazil
 SOURCE: Abstracts of Papers - American Chemical Society (2001), 221st, CATH-007
 CODEN: ACSRAL; ISSN: 0065-7727
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal; Meeting Abstract
 LANGUAGE: English

L28 ANSWER 23 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Regeneration of a thiophene-poisoned Ni-supported catalyst was carried out by supercrit. CO2 extraction. The catalyst activity was measured in the hydrogenation of 2-butanone to 2-butanol at 373 K and 1.7 MPa. The supercrit. extraction was tested over a range of operating conditions. Regeneration at 313 K and 41 MPa for 16 h completely restored the catalyst activity. Other methods cited in the literature were less effective in regeneration of Ni catalysts.

ACCESSION NUMBER: 2001:133167 CAPLUS
 DOCUMENT NUMBER: 134:328183
 TITLE: Regeneration of poisoned nickel catalyst by supercritical CO2 extraction
 AUTHOR(S): Vradman, L.; Herskowitz, M.; Korin, E.; Wisniak, J.
 CORPORATE SOURCE: Blechner Center for Industrial Catalysis and Process Development and Chemical Engineering Department, Ben-Gurion University of the Negev, Beer Sheva, 84105, Israel
 SOURCE: Industrial & Engineering Chemistry Research (2001), 40(7), 1589-1590
 CODEN: IECRED; ISSN: 0888-5885
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L28 ANSWER 24 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB This paper focuses on ex situ methods for the regeneration of selective
hydrogenation catalysts for olefin streams for downstream
processing. Case studies presented include: (1) C2 front end acetylene
hydrogenation; (2) C3 tail end acetylene **hydrogenation**;
and (3) first stage pygas (pyrolysis gasoline) **hydrogenation**.
ACCESSION NUMBER: 2000:885911 CAPLUS
DOCUMENT NUMBER: 134:118154
TITLE: **Hydrogenation catalysts**
regeneration
AUTHOR(S): Van Leirsburg, Dean; van Keulen, Nick
CORPORATE SOURCE: CRI International, Inc., USA
SOURCE: Hydrocarbon Engineering (2000), 5(11), 46-48,50
CODEN: HYENF5
PUBLISHER: Palladian Publications Ltd
DOCUMENT TYPE: Journal
LANGUAGE: English

L28 ANSWER 25 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The amorphous NiB/SiO2 catalyst was deactivated in partial
hydrogenation of cyclopentadiene (CPD) containing 1000 ppm of carbon
disulfide. After the reactivity had vanished, the catalyst was almost
completely recovered by sequential base-wash and H2-sweep treatments.
The base was alkaline ethanol. The results of XRD, DSC, XPS, EXAFS, IR,
SEM-EDX,
and H2 uptake measurements on the regenerated amorphous catalyst were
almost the same as those on original counterparts. The regeneration
operation was repeated several times, but its structural and chemical
properties remained.
ACCESSION NUMBER: 2000:604557 CAPLUS
DOCUMENT NUMBER: 133:301753
TITLE: Regeneration of the amorphous NiB/SiO2 catalyst
poisoned by carbon disulfide in cyclopentadiene
hydrogenation
AUTHOR(S): Wang, W.-J.; Li, H.; Li, H.-X.; Li, Y.-J.; Deng,
J.-F.
CORPORATE SOURCE: Department of Chemistry, Fudan University, Shanghai,
200433, Peop. Rep. China
SOURCE: Applied Catalysis, A: General (2000), 203(2), 301-306
CODEN: ACAGE4; ISSN: 0926-860X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR
THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L28 ANSWER 26 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB NH3 is treated with Ni catalysts for removal of O, CO, and CO2
simultaneous with **reduction** and regeneration of the Ni
catalysts. The system does not require feeding of H and N for
regeneration of the Ni catalysts and gives high-purity NH3.
ACCESSION NUMBER: 2000:405691 CAPLUS
DOCUMENT NUMBER: 133:45710
TITLE: Purification of ammonia with **nickel**
catalysts
INVENTOR(S): Miyano, Yasusada; Otsuka, Kenji; Waki, Hiroshi
PATENT ASSIGNEE(S): Japan Pionics, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000169138	A2	20000620	JP 1998-340248	19981130
PRIORITY APPLN. INFO.:			JP 1998-340248	19981130

L28 ANSWER 27 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The process comprises activating and reducing the toxic metal compound
with
activating gas and **reductive** gas at 300-600° and 0.1-1.0
MPa for 0.5-12 h to obtain metal, carbonylation with 20-99% CO gas at
70-150° and 0.05-0.95 MPa for 2-24 h to obtain gaseous metal
oxo-compound for discharging, decomposing at 200-300° and 0.03-0.5 MPa
for 0.5-12 h, collecting metal, and feeding CO back to the carbonylation
process. The toxic metal is Ni and/or Fe. The activating gas
is selected from H2S, and SO2; and the **reductive** gas from H2,
and CO. The volume ratio of activating gas to **reductive** gas is
(0.5-10):(90-99.5), preferably (2-6):(94-98).
ACCESSION NUMBER: 2000:201185 CAPLUS
DOCUMENT NUMBER: 132:210060
TITLE: Method for dry demetallization regeneration of
residual and/or heavy oil catalytic cracking catalyst
by carbonylation
INVENTOR(S): Hu, Yihou; Gong, Mingli; Luo, Baolin; Hu, Jiyu; Sun,
Kuiyuan; Fang, Guoping; Yang, Qiye; Li, Yulong
PATENT ASSIGNEE(S): China Petrochemical Corp., Peop. Rep. China
SOURCE: Faming Zhuanli Shengqing Gongkai Shuomingshu, 11 pp.
CODEN: CNXKEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1198366	A	19981111	CN 1997-109778	19970506
CN 1099318	B	20030122		
US 6063721	A	20000516	US 1998-73586	19980506
PRIORITY APPLN. INFO.:			CN 1997-109778	A 19970605

L28 ANSWER 28 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB An amorphous NiB/SiO₂ catalyst, deactivated in the partial hydrogenation of cyclopentadiene to cyclopentene, was regenerated by an oxidation-reduction method. After regeneration, the activity was recovered and the selectivity almost recovered. The data of BET, H₂ uptake and XPS measurements on the regenerated catalyst are almost the same as the original counterpart. XRD and DSC tests revealed that some crystallization had occurred over the regenerated catalyst, which led to the selectivity decreasing slightly. This regeneration was repeated several times, but the structural and chemical properties were nearly the same as after the first operation.

ACCESSION NUMBER: 2000:131074 CAPLUS
 DOCUMENT NUMBER: 132:142585
 TITLE: Regeneration of amorphous NiB/SiO₂ catalysts deactivated in cyclopentadiene hydrogenation
 AUTHOR(S): Wang, Wei-Jiang; Li, He-Xing; Deng, Jing-Fa
 CORPORATE SOURCE: Department of Chemistry, Fudan University, Shanghai, 200433, Peop. Rep. China
 SOURCE: Journal of Chemical Technology & Biotechnology (2000), 75(2), 147-151
 CODEN: JCTBED; ISSN: 0268-2575
 PUBLISHER: John Wiley & Sons Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L28 ANSWER 29 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The invention relates to a method for regenerating a catalyst such as a plate or honeycomb catalyst that is at least partially deactivated as a result of toxic substances. The catalyst, e.g., a selective catalytic reduction catalyst for nitrogen oxides removal from exhaust gases, is treated with a gaseous reducing agent and a polyfunctional complex forming agent to eliminate said toxic substances.

ACCESSION NUMBER: 2000:68390 CAPLUS
 DOCUMENT NUMBER: 132:82747
 TITLE: Method for regenerating a deactivated catalyst
 INVENTOR(S): Neufert, Ronald
 PATENT ASSIGNEE(S): Siemens Aktiengesellschaft, Germany
 SOURCE: FCT Int. Appl., 11 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000003804	A2	20000127	WO 1999-DE2067	19990705
WO 2000003804	A3	20000420		
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19832057	C1	20000316	DE 1998-19832057	19980716
EP 1098704	A2	20010516	EP 1999-945907	19990705
EP 1098704	B1	20030423		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002520153	T2	20020709	JP 2000-559935	19990705
AT 238100	E	20030515	AT 1999-945907	19990705
US 2001003116	A1	20010607	US 2001-761811	20010116
US 6596661	B2	20030722		
PRIORITY APPLN. INFO.:				
			DE 1998-19832057	A 19980716
			WO 1999-DE2067	W 19990705

L28 ANSWER 30 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Raney catalysts for hydrogenation of nitriles to amines are regenerated by mixing with aqueous base of basic ion concentration >0.01 mol/L, heating the mixture at <130°, and washing the treated catalyst with water or base such that the final rinse water has a pH of 12-13. The heating may be done under H₂ and the degree of regeneration is 90-100%. Examples employing soda or NaOH are given for Raney Ni catalyst used to hydrogenate adiponitrile to hexamethylenediamine and/or 6-aminocapronitrile.

ACCESSION NUMBER: 2000:43909 CAPLUS
 DOCUMENT NUMBER: 132:65730
 TITLE: Regeneration of catalyst used to hydrogenate nitriles and its use
 INVENTOR(S): Boschhat, Vincent; Leconte, Philippe
 PATENT ASSIGNEE(S): Rhodia Fiber and Resin Intermediates, Fr.
 SOURCE: Fr. Demande, 13 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2773086	A1	19990702	FR 1997-16832	19971229
FR 2773086	B1	20000211		
CA 2316821	AA	19990708	CA 1998-2316821	19981223
WO 9933561	A1	19990708	WO 1998-FR2856	19981223
W: BR, BY, CA, CN, CZ, ID, JP, KR, PL, RO, RU, SG, SK, UA, US, VN				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1042068	A1	20001011	EP 1998-963616	19981223
R: BE, DE, ES, FR, GB, IT, NL				
BR 9814561	A	20011016	BR 1998-14561	19981223
JP 2001526956	T2	20011225	JP 2000-526298	19981223
RU 2190469	C2	20021010	RU 2000-120191	19981223
US 6518449	B1	20030211	US 2001-582657	20010209
PRIORITY APPLN. INFO.:				
			FR 1997-16832	A 19971229
			WO 1998-FR2856	W 19981223

L28 ANSWER 31 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Thermogravimetry was used to follow the oxidation-reduction as well as the regeneration processes of deactivated NiO/γ-Al₂O₃ catalysts. The catalysts, whose deactivation was caused by the sintering of metallic Ni and by the forming of NiAl₂O₄ species, could be regenerated by reduction-oxidation. Especially, the regeneration of NiAl₂O₄ to NiO was more than 90%.

ACCESSION NUMBER: 2000:9975 CAPLUS
 DOCUMENT NUMBER: 132:95492
 TITLE: Study on the regeneration of deactivated NiO/γ-Al₂O₃ catalyst for the conversion of natural gas with CO₂ to synthesis gas by TG
 AUTHOR(S): Jinxiang, L.; Hengyong, X.
 CORPORATE SOURCE: Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, Peop. Rep. China
 SOURCE: Thermochimica Acta (2000), 343(1-2), 99-104
 CODEN: THACAS; ISSN: 0040-6031
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L28 ANSWER 32 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The com. test of the selective **hydrogenation** catalyst RDD-1 at Liaoyang Chemical Fiber Company is introduced. The results indicated that the catalyst was good in activity, selectivity and stability. The **catalyst regeneration** can be carried with air and steam for burning off the coke, and the activity of the regenerated catalyst was similar to that of fresh catalyst.
 ACCESSION NUMBER: 1999:424301 CAPLUS
 DOCUMENT NUMBER: 131:89924
 TITLE: Commercial application of selective **hydrogenation** catalyst RDD-1
 AUTHOR(S): Sun, Lianxia; Sun, Mingyong; Zhang, Dongping; Huang, Xitai
 CORPORATE SOURCE: Research Institute of Petroleum, Beijing, 100083, Peop. Rep. China
 SOURCE: Shiyou Lianzhi Yu Huagong (1999), 30(5), 10-12
 CODEN: SLYHEE; ISSN: 1005-2399
 PUBLISHER: Shiyou Lianzhi Yu Huagong Zazhishe
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

L28 ANSWER 33 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The deactivated amorphous NiB/SiO₂ catalyst in the selective **hydrogenation** of cyclopentadiene (CPD) to cyclopentene (CPE) was regenerated by a new method, base-wash method at room temperature. The base was alkaline-ethanol solution. After regeneration, the activity and selectivity were completely recovered. The results of XRD and DSC measurements showed that the amorphous structure of the regenerated amorphous catalyst is almost the same as that of the original counterpart. STEM-EDAX anal. revealed that the surface of the deactivated catalyst was covered by carbon. After regeneration, the carbon was removed. BET, H₂ chemisorption and XPS tests indicated that the surface areas and chemical state were held on the catalyst. Such regeneration operation can be repeated several times without significant changes in the structural and chemical properties.
 ACCESSION NUMBER: 1999:356468 CAPLUS
 DOCUMENT NUMBER: 131:50101
 TITLE: Regeneration at room temperature for amorphous NiB/SiO₂ catalyst deactivated in cyclopentadiene **hydrogenation**
 AUTHOR(S): Wang, Wei-Jiang; Li, He-Xing; Xie, Song-Hai; Li, Yong-Jiang; Deng, Jing-Fa
 CORPORATE SOURCE: Department of Chemistry, Pudun University, Shanghai, 200433, Peop. Rep. China
 SOURCE: Applied Catalysis, A: General (1999), 184(1), 33-39
 CODEN: ACAGE4; ISSN: 0926-860X
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L28 ANSWER 34 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The hydrosulfurization (HDS) catalytic activity of spent industrial catalyst NiMo/γ-Al₂O₃ can be regenerated through oxidation below 723 K, calcination in air at 753 K for 3 h, and **reduction** at 673 K in H₂ for 2 h and oxidation at 723 K in air for 4 h successively. The activity for HDS of some regenerated samples can even be higher than that of the fresh catalyst sample.
 ACCESSION NUMBER: 1999:46558 CAPLUS
 DOCUMENT NUMBER: 130:141450
 TITLE: Regeneration of spent industrial NiMo/γ-Al₂O₃ catalysts for HDS
 AUTHOR(S): Su, Jixin; Xiao, Tiancun; Wang, Haitao; Lu, Yuli; Zhou, Changli; Li, Shuben; Zhang, Kongyuan
 CORPORATE SOURCE: Department of Environmental Engineering, Shandong University, Jinan, 250100, Peop. Rep. China
 SOURCE: Yingyong Huaxue (1998), 15(6), 11-15
 CODEN: YIHUED; ISSN: 1000-0518
 PUBLISHER: Yingyong Huaxue Bianji Wei-yuanhui
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

L28 ANSWER 35 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The catalysts for hydrotreating process are widely used in petroleum industry and more and more studies are focused on the reuse of spent catalysts because of the environmental regulation and the high catalyst consumption. NiMo/γ-Al₂O₃ is one of the most important catalysts for the hydrosulfurization (HDS)/hydrodenitrogenation (HDN) in petroleum industry. In this study, the effect of regeneration conditions on the physico-chemical properties and catalytic performance of the spent catalysts was investigated. The regenerated samples were characterized by low-temperature nitrogen adsorption, XRD, SEM-EDS, IR and TPR techniques. The catalytic activities of regenerated samples were evaluated by catalytic hydrosulfurization of diesel oil. The results show that for the samples regenerated at a suitable temperature, there is only a little change in the textural structure, the aggregate of active phase in the oxidized samples may change the coordination states of some active elements, decrease the **reduction** temperature and improve the HDS activity of the regenerated samples. The presence of sulfate ions does not affect the HDS activity of the regenerated samples.
 ACCESSION NUMBER: 1998:777327 CAPLUS
 DOCUMENT NUMBER: 130:68840
 TITLE: Effect of regeneration process on structure and hydrosulfurization activity of industrial NiMo/γ-Al₂O₃ catalyst
 AUTHOR(S): Su, Jixin; Xiao, Tiancun; Wang, Haitao; Lu, Yuli; Li, Shuben
 CORPORATE SOURCE: Dep. Environ. Eng., Shandong Univ., Jinan, 250100, Peop. Rep. China
 SOURCE: Fenzi Cuihua (1998), 12(5), 362-366
 CODEN: FECUEN; ISSN: 1001-3555
 PUBLISHER: Zhongguo Kexueyuan Lanzhou Huaxue Wuli Yanjiusuo
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

L28 ANSWER 36 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Vanadium was recovered from spent catalyst by leaching with oxalic acid and a oxidizing agent selected from Fe(NO₃), Al(NO₃), and H₂O₂. The ebullated bed operation mod was more efficient then the fixed bed in leaching of vanadium. The possibility of recovering of other metals (Ni, Mo, and Co) by leaching as well as the simultaneous catalyst regeneration is also considered.

ACCESSION NUMBER: 1998:563347 CAPLUS
 DOCUMENT NUMBER: 129:263230
 TITLE: Comparison between fixed-bed and ebullated-bed modes of reactor operations in leaching metals from spent residue hydroprocessing catalysts
 AUTHOR(S): Stanislaus, Marafi A.; Jassem, F.
 CORPORATE SOURCE: Petroleum Technology Department, Kuwait Institute for Scientific Research, Safat, Kuwait
 SOURCE: Preprints - American Chemical Society, Division of Petroleum Chemistry (1998), 43(3), 486-490
 CODEN: ACPCAT; ISSN: 0569-3799
 PUBLISHER: American Chemical Society, Division of Petroleum Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L28 ANSWER 37 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Reactivation of spent Ni-Mo, Co-Mo, and Ni-W hydrotreating, hydrodesulfurization, and hydrocracking catalysts is done in 2 stages. In the 1st stage, the used catalysts are washed with a mixture of a petroleum solvent (e.g., gasoline, diesel fuel, light oil) containing 10-75 volume% aromatic hydrocarbons and a H-containing gas at a H₂/solvent volume ratio of 100-3,000 m³/m³, 250-350°, 5-200 bar, and space velocity of (0.5-2.5)/h. In the 2nd stage, the catalysts are subjected to hydrocracking to remove coke deposits by using a circulating gas containing 40-100% H₂ for 8-16 h at 380-450° (preferably at 420°), 5-200 bar (preferably 50-60 bar), and H₂/catalyst volume ratio of 500-1,000 m³/m³.

ACCESSION NUMBER: 1998:435928 CAPLUS
 DOCUMENT NUMBER: 129:43154
 TITLE: Reactivation of catalysts used in hydrogenation processes of petroleum fractions
 INVENTOR(S): Savu, Constantin; Ungureanu, Tefan; Nastasi, Adrian; Ghiula, Gheorghe; Avram, Ion; Erban, Mihai
 PATENT ASSIGNEE(S): Institutul de Cercetari pentru Rafinarii si Petrochimie, S.A., Ploiesti, Rom.
 SOURCE: Rom., 7 pp.
 CODEN: RUXXA3
 DOCUMENT TYPE: Patent
 LANGUAGE: Romanian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RO 106966	B1	19930830	RO 1991-148554	19911014
PRIORITY APPLN. INFO.:			RO 1991-148554	19911014

L28 ANSWER 38 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Title only translated.

ACCESSION NUMBER: 1998:331755 CAPLUS
 DOCUMENT NUMBER: 128:313470
 TITLE: Method of regeneration of exhausted nickel -containing hydrogenation catalyst
 PATENT ASSIGNEE(S): Novocherkasskiy Zavod Sinticheskikh Produktov, Russia
 SOURCE: Russ. From: Izobreteniya 1997, (36), 206.
 CODEN: RUXXE7
 DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2100071	C1	19971227	RU 1996-103933	19960305
PRIORITY APPLN. INFO.:			RU 1996-103933	19960305

L28 ANSWER 39 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The denitration catalysts (containing active substances selected from sulfates of Ni, Fe, Co, Mn, and Zn) which are used for removal of NO_x by catalytic reaction of waste gases with NH₃ at 80-180°, are regenerated by washing the catalysts with active substance-containing aqueous solns. or H₂O. The sulfate catalysts, which are active at low temps. are easily regenerated by the process.

ACCESSION NUMBER: 1998:157531 CAPLUS
 DOCUMENT NUMBER: 128:221047
 TITLE: Regeneration of low-temperature denitration catalysts
 INVENTOR(S): Toyao, Mamoru; Mitsuwa, Masaru; Suzumura, Hiroshi; Tanaka, Hiroshi; Noshima, Shigeru; Nagayasu, Tachito
 PATENT ASSIGNEE(S): Chubu Electric Power Co., Inc., Japan; Mitsubishi Heavy Industries, Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10066875	A2	19980310	JP 1996-227963	19960829
PRIORITY APPLN. INFO.:			JP 1996-227963	19960829

L28 ANSWER 40 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Both Co-Mo and Ni-Co-Mo catalyst supported over γ -alumina were synthesized and compulsively deactivated by coking from 1,5-hexadiene. The coked catalysts, containing .apprx.8.8 wt% carbon and .apprx.7 wt% sulfur, were regenerated by oxidative burnoff at various temps. in the range of 300-700°C. The catalyst regenerated at each temperature was characterized by various techniques; i.e., BET, XRD, XPS, and TPR. During regeneration, physicochem. properties such as surface area, crystallinity, reducibility, and metal distribution changed significantly with the regeneration temperature. Increase in the dispersion of promoter species (cobalt or nickel) was observed in the catalysts regenerated at low temps. and this gave rise to the enhancement of activity in comparison to the fresh catalyst. On the other hand, promoters migrated into the sublayer of alumina support at higher temps. and thus resulted in the formation of Pd2O4 (P = Co or Ni) phases. Consequently, the crystallinity of the catalyst increased while the reducibility decreased as the regeneration temperature increased.

An abrupt increase in Mo dispersion and a decrease in surface area were observed when the coked catalyst was regenerated at 700°C.

ACCESSION NUMBER: 1998:30391 CAPLUS
 DOCUMENT NUMBER: 128:77282
 TITLE: Physicochemical changes in hydrosulfurization catalysts during oxidative regeneration
 AUTHOR(S): Oh, Eun-Suok; Park, Yong-Chul; Lee, In-Chul; Rhee, Hyun-Ku
 CORPORATE SOURCE: Department of Chemical Engineering, Seoul National University, Seoul, 151-742, S. Korea
 SOURCE: Journal of Catalysis (1997), 172(2), 314-321
 CODEN: JCTLAS; ISSN: 0021-9517
 PUBLISHER: Academic Press
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 17
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L28 ANSWER 42 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The present invention relates to processes of regenerating Ni catalysts which had been used in a hydrogenation of unsatd. fatty oil or petroleum resin, which comprise separating the Ni-extracted solution and support by extracting the pretreated Ni catalysts with an acid, preparing support-containing solution by burning the separated support in the flow of air or oxygen diluted with nitrogen at the temperature of 300° to 800° C. for 5 to 15 h and adding deionized water to the support, preparing a catalyst precursor by dropping the Ni-extracted solution and the mixed solution of a basic compound and a compound with free oxygen in the support-containing solution during agitation so as to keep pH of the solution at 9 to 13, whereby nickel oxide ppts. on the support, carrying out a step consisting of aging, washing, filtering and drying the catalyst precursor, and stabilizing the dried catalyst precursor by reducing with hydrogen and passing in nitrogen diluted with oxygen or an organic material.

ACCESSION NUMBER: 1997:656888 CAPLUS
 DOCUMENT NUMBER: 127:311834
 TITLE: Processes of regenerating Ni catalysts and of preparing Ni catalysts
 INVENTOR(S): Lee, Ho-in; Moon, Sang-heup; Hwang, Gyo-hyun; Coh, Byung-youl; Hur, Seung-hyun; Han, Sung-hee; Park, Heung-sun; Lee, Jong-hae
 PATENT ASSIGNEE(S): Lucky Engineering Co., Ltd., S. Korea; Seoul National University
 SOURCE: U.S., 8 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5674796	A	19971007	US 1994-362845	19941222
			KR 1994-17482	19940720

PRIORITY APPLN. INFO.:

L28 ANSWER 41 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The spent hydrogenation catalyst, which comprises a support of an inorg. oxide-zeolite compound, carbon, and zeolites and a catalytically active metal phase of partially reduced Group IB metal and/or completely reduced Group VIII metals, is first treated with an inert gas (e.g., N, He, Ar, methane, ethane, propane, or H) to remove hydrocarbon traces and is then treated with hydrogen to recover the diolefin hydrogenation capacity.

ACCESSION NUMBER: 1997:672832 CAPLUS
 DOCUMENT NUMBER: 127:320721
 TITLE: Regeneration of a petroleum hydrogenation catalyst
 INVENTOR(S): Ramirez des Agudelo, Magdalena; Hernandez de Godoy, Zaida; Navarro, Raul; Guerra, Julia
 PATENT ASSIGNEE(S): Intevep S.A., Venez.
 SOURCE: Ger. Offen., 11 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 6
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19634880	A1	19971009	DE 1996-19634880	19960829
DE 19634880	C2	19990729		
US 5817589	A	19981006	US 1996-631605	19960402
CA 2175327	AA	19971003	CA 1996-2175327	19960429
CA 2175327	C	19991019		
NL 1003041	A1	19971003	NL 1996-1003041	19960506
NL 1003041	C2	19990706		
FR 2746673	A1	19971003	FR 1996-6678	19960530
FR 2746673	B1	20000114		
BR 9602559	A	19981006	BR 1996-2559	19960531
JP 09271675	A2	19971021	JP 1996-169432	19960628
JP 2850304	B2	19990127		

PRIORITY APPLN. INFO.:

US 1996-631605	A	19960402
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L28 ANSWER 43 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Unpromoted and K-promoted Ni/Al2O3 catalysts were prepared, calcined at 400 or 700 °C, and subsequently reduced at 500 or 800 °C. Cyclopentane hydrogenolysis was carried out within the 370-500 °C temperature range to obtain a carbon deposit. After coking, the catalysts were regenerated by carbon gasification in H2 at 800 °C. TPO of the carbon deposits was carried out, and the filaments were examined by SEM and TEM. The structural parameters (particle size, degree of nickel reduction, promotion by K) as well as the hydrogen flow rate showed marked effects on both the coking and the regeneration. The catalysts coked at high temperature (~480 °C) form very stable carbon filaments whose gasification requires both a high temperature (800 °C) and a high H2 flow rate. On the contrary, those which are coked at a lower temperature (420-460 °C) form filaments much more readily gasified by H2.

ACCESSION NUMBER: 1997:473341 CAPLUS
 DOCUMENT NUMBER: 127:71341
 TITLE: Regeneration of Nickel Catalysts Deactivated by Filamentous Carbon
 AUTHOR(S): Duprez, D.; Fadili, K.; Barbier, J.
 CORPORATE SOURCE: Laboratoire de Catalyse en Chimie Organique URA CNRS 350, Poitiers, 86022, Fr.
 SOURCE: Industrial & Engineering Chemistry Research (1997), 36(8), 3180-3187
 CODEN: IECRED; ISSN: 0888-5885
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 44 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Cycloolefins are prepared by continuous partial hydrogenation of monocyclic aromatic hydrocarbons in the presence of Ru catalysts, metal salts, and H₂O in a reactor whose wetted part is made of Ni-containing materials, and at least a part of the catalysts is extracted, washed with acids, and recycled in the reaction. The catalysts are preferably washed until the pH of the washing water used becomes 6-7, followed by reduction before recycling. Benzene was continuously fed to a reactor whose wetted part comprised Ni-Cr-Mo steel containing H₂O, ZnSO₄, and Ru-Zn/SiO₂ modified with ZrO₃ (preparation given) under H at 150° and 5.0 MPa to give cyclohexene (I) at conversion 36% and selectivity 75% after 3 h and 30 and 72%, resp., after 87.5%. The used catalyst separated from the catalyst slurry by filtration was repeatedly washed with H₂O to remove Zn. The catalyst was further washed with an aqueous H₂SO₄ solution to remove Ni and Fe, reduced under H₂, and reused to give I at conversion 20.0% and selectivity 90.2% after 75 min.

ACCESSION NUMBER: 1997:356156 CAPLUS
 DOCUMENT NUMBER: 127:17439
 TITLE: Preparation of cycloolefins by ruthenium-catalyzed partial hydrogenation of monocyclic aromatic hydrocarbons
 INVENTOR(S): Suzuki, Toshuki; Matsuoka, Takeshi
 PATENT ASSIGNEE(S): Mitsubishi Chemical Industries Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09087209	A2	19970331	JP 1995-246057	19950925

PRIORITY APPLN. INFO.: JP 1995-246057 19950925

L28 ANSWER 46 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The structural and morphol. changes of the metal phases which occur during regeneration in hydrogen and air/hydrogen cycles have been studied for Ni-USY catalysts which had been deactivated during the hydrogenation of benzene. Independent of nickel loading in the zeolite, regeneration in hydrogen alone was not sufficient to restore the initial activity. Regeneration in air/hydrogen cycles was more successful for catalysts with higher Ni loadings, but structural transformations of the metal particles occurred during the oxidative regeneration process. Temperature programmed reduction (TPR), photoelectron spectroscopy (XPS) and FTIR of adsorbed CO have been used to identify these modifications.

ACCESSION NUMBER: 1996:594892 CAPLUS
 DOCUMENT NUMBER: 125:285933
 TITLE: Regeneration of Ni-USY catalysts used in benzene hydrogenation
 AUTHOR(S): Pawelec, B.; Daza, L.; Fierro, J. L. G.; Anderson, J. A.
 CORPORATE SOURCE: Instituto de Catalisis y Petroleoquimica, CSIC, Campus UAM, Cantoblanco, Madrid, 28049, Spain
 SOURCE: Applied Catalysis, A: General (1996), 145(1-2), 307-322
 CODEN: ACAGE4; ISSN: 0926-860X
 PUBLISHER: Elsevier
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 45 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The process comprises regeneration of solid catalysts, that contain 21 elements selected from Ti, Si, Al, Zr, Mn, Fe, Co, Ni, W, Ce, Cu, Ag, Au, Pt, Pd, Rh, Ru, and Ir and whose activities are lowered by poisoning by alkaline earth metals or oxidation by excess O₂ in wastewater wet oxidation processes, with liqs. (pH 3-10) containing (NH₄)₂SO₄, NH₄Cl, and/or (NH₄)₂CO₃ or both the ammonium salts and NH₃ practically in the absence of O₂ at 50-370° under pressure that the liqs. retain the liquid phase. The process provides efficient regeneration of catalysts by removal of Ca scales and reduction of oxidized catalysts.

ACCESSION NUMBER: 1997:186382 CAPLUS
 DOCUMENT NUMBER: 126:176305
 TITLE: Regeneration of catalysts for wet oxidation treatment of wastewater
 INVENTOR(S): Maeda, Shinji; Ikeda, Mitsuki; Ishii, Tooru; Mitsui, Kiichiro
 PATENT ASSIGNEE(S): Nippon Catalytic Chem Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09010602	A2	19970114	JP 1995-162475	19950628
JP 3083463	B2	20000904	JP 1995-162475	19950628

PRIORITY APPLN. INFO.: JP 1995-162475 19950628

L28 ANSWER 47 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The catalysts containing 0.1-50% 21 of metals of 4th period and 0.01-10% 21 of Pt-group metals are regenerated by (1) heating at 100-250° in O-containing atmospheric, or (2) alternatively heating at 300-1000° in steam and/or CO₂-containing atmospheric A process for preparation of Cl₂C:CHCl (I) by hydrogenation of Cl₂C:CCl₂ (II) with the regenerated catalysts is also claimed. A spent catalyst of Cu- and Pt-loaded activated C was heated at 200° in air for 15 h, which was packed in a reactor, then fed with II-H at 340° for 1 h to give I in 94.9% selectivity at 50.6% conversion.

ACCESSION NUMBER: 1996:497013 CAPLUS
 DOCUMENT NUMBER: 125:142101
 TITLE: Regeneration of catalysts and preparation of trichloroethylene using them
 INVENTOR(S): Suzuta, Tetsuya; Yokoi, Tatsuo; Ito, Naokazu; Yoshida, Teruo
 PATENT ASSIGNEE(S): Toa Gosei Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08155305	A2	19960618	JP 1994-330529	19941206

PRIORITY APPLN. INFO.: JP 1994-330529 19941206

L28 ANSWER 48 OF 258 CAPLUS COPYRIGHT 2004 ACS on STM
 AB The electrochem. reduction of organic compds. containing C(Hal)2, PC12,
 or
 SiCl2 groups by using Ni(0) complexes with PPh3,
 2,2'-bipyridine, and 1,10-phenanthroline was studied. Mechanisms of the
 process are suggested, and effective rate consts. for catalyst
 regeneration are evaluated.

ACCESSION NUMBER: 1996:488194 CAPLUS
 DOCUMENT NUMBER: 126:12441
 TITLE: Metal-complex catalysis in organic electrosynthesis.
 Nickel(II) complexes with PPh3,
 2,2'-bipyridine, and 1,10-phenanthroline, their redox
 properties, and catalysis of reduction
 reactions of dihalo organic compounds

AUTHOR(S): Budnikova, Yu. G.; Petrukhina, O. E.; Kargin, Yu. M.
 CORPORATE SOURCE: Arbuzov, A.E., Institut Organicheskoi i Fizicheskoi
 Khimii, Russia
 SOURCE: Zhurnal Obshchei Khimii (1996), 66(4), 610-614
 CODEN: ZOKHA4; ISSN: 0044-460X

PUBLISHER: Nauka
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 49 OF 258 CAPLUS COPYRIGHT 2004 ACS on STM
 AB Hydrocarbon oils containing asphaltene, S, and/or metal components are
 hydrogenated in the presence of catalyst, where the process
 comprises treating deteriorated catalysts by reverse flow of the
 hydrocarbon oils according to the deterioration of catalyst performance.
 The hydrocarbon oils may be crude oils, naphtha-removed crude oils,
 reduced crude, or vacuum distillation crude. The catalysts may contain
 alumina supports loaded with group 6, 8, 9, and/or 10 metals, preferably
 Ni-Mo, Co-Mo, Ni-W, or Ni-Co-Mo. Optionally,
 the catalysts contain P or B.

ACCESSION NUMBER: 1996:191646 CAPLUS
 DOCUMENT NUMBER: 124:236892
 TITLE: Hydrogenation of hydrocarbon oils for
 prolonging catalysts life

INVENTOR(S): Iwamoto, Ryuchiro
 PATENT ASSIGNEE(S): Idemitsu Kosan Co, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07331254	A2	19951219	JP 1994-123388	19940606
PRIORITY APPLN. INFO.:			JP 1994-123388	19940606

L28 ANSWER 50 OF 258 CAPLUS COPYRIGHT 2004 ACS on STM
 AB The poisoning by thiophene and the regeneration of a Ni/Al2O3
 catalyst during the selective hydrogenation of styrene at 353 K
 was studied. It was determined by XPS and Fourier transform IR
 spectroscopy
 that the sulfur species adsorbed during the catalyst poisoning is
 thiophene, which is adsorbed coplanarly to the surface. The catalyst was
 regenerated by H2 treatments for different times and at several
 pressures.
 Part of the sulfur remained irreversibly adsorbed after regeneration, and
 hence the activity and selectivity values corresponding to the
 nonpoisoned
 catalyst were never recovered. After the regeneration treatments at 473
 K, a modification on the adsorbed sulfur electronic state was detected,
 which can be ascribed to thiophene hydrogenolysis, thus producing
 superficial sulfide adsorbed species.

ACCESSION NUMBER: 1995:875119 CAPLUS
 DOCUMENT NUMBER: 123:255977
 TITLE: Regeneration of Ni/Al2O3 Poisoned by
 Thiophene during the Selective Hydrogenation
 of Styrene

AUTHOR(S): L'Argentiere, Pablo C.; Liprandi, Domingo A.; Figoli,
 Nora S.
 CORPORATE SOURCE: Instituto de Investigaciones en Catalisis y
 Petroquimica, Santa Fe, 3000, Argent.
 SOURCE: Industrial & Engineering Chemistry Research (1995),
 34(11), 3713-17
 CODEN: IECRED; ISSN: 0888-5885

PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 51 OF 258 CAPLUS COPYRIGHT 2004 ACS on STM
 AB Title only translated.

ACCESSION NUMBER: 1995:721224 CAPLUS
 DOCUMENT NUMBER: 123:86563
 TITLE: Reactivation of catalyst for hydrogenation
 of vegetable oil

INVENTOR(S): Melamud, Naum L.; Noskova, Nina F.; Ryzhova, Rozaliya
 Ya.; Savelev, Sergej R.; Korneev, Nikolaj N.;
 Khrapova, Irina M.

PATENT ASSIGNEE(S): Gosudarstvennyj Nauchno-Issledovatel'skij Institut
 Khimii i Tekhnologii El Amicheskikh Soedinenii,
 Russia; Institut Organicheskogo Kataliza i
 Elektrokhimii im.D.V.Sokolskogo
 SOURCE: Russ. From: Izobreteniya 1993, (39-40), 87.
 CODEN: RUXXE7

DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2001941	C1	19931030	RU 1992-5033034	19920131
PRIORITY APPLN. INFO.:			SU 1992-5033034	19920131

L28 ANSWER 52 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Catalytic composites of the reaction product of a metal halide (e.g., AlCl3) having Friedel-Crafts activity with the bound surface OH groups of inorg. oxides (e.g., alumina) and containing a zero-valent metal (e.g., Pt) with hydrogenation activity, deactivated during use as catalysts in the manufacture of alkylates (e.g., from 2-butene-isobutane mixture) for use in motor fuels, are regenerated by treatment with H at 10-300°. Multiple regenerations do not result in appreciable loss of activity.
ACCESSION NUMBER: 1995:719170 CAPLUS
DOCUMENT NUMBER: 123:88038
TITLE: Regeneration with hydrogen of modified alkylation catalyst for production of alkylate for use in gasoline
INVENTOR(S): Kojima, Masami; Kocal, Joseph A.
PATENT ASSIGNEE(S): UOP Inc., USA
SOURCE: U.S., 5 pp. Cont.-in-part of U.S. 5,310,713.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5391527	A	19950221	US 1993-172960	19931227
US 5310713	A	19940510	US 1993-43954	19930405
AT 169843	E	19980915	AT 1994-303093	19940428
ES 2119082	T3	19981001	ES 1994-303093	19940428
PRIORITY APPLN. INFO.:			US 1993-43954	A2 19930405
			EP 1994-303093	A 19940428

L28 ANSWER 53 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The title system comprises means for removing and concentrating CO2 from the polluted respiratory air from human or animals, means for supplying a portion of the concentrated CO2 to plants and recovering the generated O2 for human or animals, means for introducing the remaining portion of CO2 into a 1st catalytic reactor to convert CO2 over a Ni catalyst at .apprx.400° to form CH4 and H2O, means for electrolyzing the H2O into H2 and O2, means for reacting the formed CH4 over an Fe catalyst on refractory oxide support at .apprx.1000° in a 2nd catalyst reactor to convert CH4 into C and H2, means for utilizing the formed H2 to regenerate the spent catalyst in the 1st catalytic reactor, means for combusting the formed C with O2 from the electrolysis cell to form CO2 in the closed cycle. The system is useful in manned space vehicles.
ACCESSION NUMBER: 1995:712043 CAPLUS
DOCUMENT NUMBER: 123:91967
TITLE: Close-type environmental control system and regeneration of catalysts for carbon dioxide removal
INVENTOR(S): Sawada, Toyoo; Kajima, Kazuhiro; Ootsuji, Kaoru
PATENT ASSIGNEE(S): Mitsubishi Heavy Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JXXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07047229	A2	19950221	JP 1993-195996	19930806
PRIORITY APPLN. INFO.:			JP 1993-195996	19930806

L28 ANSWER 54 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Gas containing NOx and entrained catalyst fines is passed up through a bed of catalyst at a sufficient velocity to expand and fluidize the catalyst bed. Particulates deposited on the catalyst are abraded or elutriated away by fluidization, preventing fouling of the DeNOx catalyst. The reactor has a low pressure drop design, with vertical, perforated gas distributors covered by the bed.
ACCESSION NUMBER: 1995:599691 CAPLUS
DOCUMENT NUMBER: 123:36930
TITLE: Fines tolerant SCR reactor in FCC process for flue gas
INVENTOR(S): cleanup
PATENT ASSIGNEE(S): Chou, Tai Sheng
SOURCE: Mobil Oil Corp., USA
U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5413699	A	19950509	US 1993-136053	19931014
PRIORITY APPLN. INFO.:			US 1993-136053	19931014

L28 ANSWER 55 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Cyclic process for catalytically upgrading feedstock and for upgrading the activity of aged catalyst comprising the steps (1) of supplying feedstock and olefin at a paraffin to olefin ratio greater than 5 volume/volume to a reactor containing a solid acid catalyst and removing effluent comprising upgraded product and (b) of exposing the catalyst to a hydrogenating medium and removing a hydrocarbonaceous effluent wherein the catalyst comprises zeolite beta crystals.
ACCESSION NUMBER: 1995:551081 CAPLUS
DOCUMENT NUMBER: 122:269848
TITLE: Process for alkylating a paraffinic feedstock by condensation of paraffins with olefins
INVENTOR(S): van Brugge, Paulus Theodorus Maria; de Groot, Christoffel; Meesters, Carolus Matthias Anna;
Peferoen, Danny Gaston Rene
PATENT ASSIGNEE(S): Shell Internationale Research Maatschappij B. V.,
Neth.
SOURCE: Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 640575	A1	19950301	EP 1994-202421	19940824
EP 640575	B1	19970514		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
CA 2129797	AA	19950227	CA 1994-2129797	19940809
AU 9470239	A1	19950309	AU 1994-70239	19940811
AU 673445	B2	19961107		
JP 07082176	A2	19950328	JP 1994-220828	19940824
AT 153014	E	19970515	AT 1994-202421	19940824
ES 2102766	T3	19970801	ES 1994-202421	19940824
FI 9403924	A	19950227	FI 1994-3924	19940826
PRIORITY APPLN. INFO.:			EP 1993-202515	19930826

L28 ANSWER 56 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB A scheme of production of **nickel** catalysts using as a substrate spent catalysts for oil **hydrogenation** is provided. It involves leaching in nitric acid in a presence of oxygen and separation of post-reaction mixture. The part of the solution containing **nickel** nitrate and silica is divided using a centrifuge. The fatty layer is added back to the fat reservoir. The **nickel** nitrate could be used for the production of **nickel** catalysts by precipitation.

ACCESSION NUMBER: 1995:455377 CAPLUS
 DOCUMENT NUMBER: 122:223777
 TITLE: Oil **hydrogenation** spent catalysts as a raw material for **nickel** catalyst production
 AUTHOR(S): Golebiowski, Andrzej; Gorecki, Andrzej; Gorska, Anna; Lewandowski, Tadeusz; Jesiolowski, Jerzy; Giryń, Krzysztof
 CORPORATE SOURCE: Inst. Nawozow Sztucznych, Pulawy, Pol.
 SOURCE: Chemik (1994), 47(12, BIS), 391
 CODEN: CHGLAY; ISSN: 0009-2886
 PUBLISHER: Wydawnictwo SIGMA-NOT
 DOCUMENT TYPE: Journal
 LANGUAGE: Polish

L28 ANSWER 57 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Transition metal-containing organic solvents separated from olefin polymerization systems are regenerated by **hydrogenation** in the presence of transition metal catalysts supported by alkali or alkaline earth metal compds. Thus, hexane from an olefin polymerization system was **hydrogenated** in the presence of K₂CO₃-supported Pd/alumina and used in polymerization of propylene in the presence of Ti catalysts, AlEt₃, and Me p-toluate at 60° under 7 kg/cm² gauge for 2 h to prepare polypropylene with polymerization activity 306 kg-polymer/g-Ti.

ACCESSION NUMBER: 1995:300329 CAPLUS
 DOCUMENT NUMBER: 122:161741
 TITLE: Catalysts and process for regeneration of organic solvents for olefin polymerization
 INVENTOR(S): Torihata, Takashi; Nishimura, Satoyuki
 PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06293808	A2	19941021	JP 1994-17328	19940214
PRIORITY APPLN. INFO.:			JP 1993-25503	19930215

L28 ANSWER 58 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB A process for the reactivation, or rejuvenation of a **nickel** -alumina catalyst employed in the production of a gas comprised of an admixt. of hydrogen and carbon monoxide, or synthesis gas, by the conversion, in a reactor, or reaction zone, of light hydrocarbons in a fluidized bed of the catalyst at elevated temperature, in the presence of steam and oxygen. Catalyst reactivation is accomplished by withdrawing a portion of the catalyst from the fluidized bed of the reactor and treating the catalyst in an oxidation zone at temperature sufficient to oxidize and convert the **nickel** component of the catalyst to **nickel** aluminate and disperse said **nickel** aluminate within the alumina support, and then recycling the treated catalyst to the reactor, or reaction zone, to reactivate and increase the activity of the catalyst. The catalyst, on **reduction** in the reactor, or reaction zone, is provided an addnl. boost in activity by washing, treating or contacting the catalyst from the elevated temperature oxidation zone with an acid sufficient to remove trace impurities without removing any substantial amount of the **nickel** aluminate, and without forming a residue on the catalyst surface. The normal tendency of the catalyst to agglomerate at reaction conditions is also reduced by the acid treatment.

ACCESSION NUMBER: 1995:227425 CAPLUS
 DOCUMENT NUMBER: 122:13547
 TITLE: Process for the reactivation of **nickel** -alumina catalysts
 INVENTOR(S): Clavenna, Leroy R.; Davis, Stephen M.; Beasley, Brent E.
 PATENT ASSIGNEE(S): Exxon Research and Engineering Co., USA
 SOURCE: U.S., 9 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

L28 ANSWER 59 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The activity of catalysts based on the oxides of Cu, Fe, Co, Ni, Cr, Mn, and V applied on γ - and α -Al₂O₃ in NO removal from flue and waste gases was studied under nonstationary chemisorption-regeneration conditions of the process based on the time-separation of stages of NO heterogeneous catalytic decomposition. The effect of the catalyst promotion by Pd at the gas purification stage and during catalyst **regeneration** by **reduction** with H is discussed.

ACCESSION NUMBER: 1994:611848 CAPLUS
 DOCUMENT NUMBER: 121:211848
 TITLE: Activity of transition metal oxide based catalysts in gas purification by nonstationary process for NO removal
 AUTHOR(S): Chernobaev, I. I.; Kuznetsov, V. A.; Vlasenko, V. M.
 CORPORATE SOURCE: Inst. Fiz. Khim., Kiev, Ukraine
 SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1993), 59(9), 939-44
 CODEN: UKZHAY; ISSN: 0041-6045
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5356845	A	19941018	US 1993-60333	19930511
CA 2121942	AA	19941112	CA 1994-2121942	19940422
CA 2121942	C	20001121		
WO 9401715	A	19941114	NO 1994-1715	19940509
AU 9461982	A1	19941117	AU 1994-61982	19940509
AU 664527	B2	19951116		
EP 624400	A1	19941117	EP 1994-303329	19940509
EP 624400	B1	19970910		

R: DE, FR, GB, IT, NL
 PRIORITY APPLN. INFO.: US 1993-60333 A 19930511

L28 ANSWER 60 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The extent of **hydrogenation** of benzene over catalysts obtained by depositing **Ni** on the zeolite USHY depends on the the amount of exchanged **Ni**. **Ni(0)** is the active species. The catalyst was regenerated to a great extent in an air atmospheric, but not under hydrogen.
 ACCESSION NUMBER: 1994:604885 CAPLUS
 DOCUMENT NUMBER: 121:204885
 TITLE: Regeneration of **Ni**-USY catalysts used for benzene **hydrogenation**
 AUTHOR(S): Anderson, J.A.; Daza, L.; Fierro, J.L.G.; Pawelec, B.
 CORPORATE SOURCE: Instituto de Catalisis y Petroleoquimica, S.S.I.C., Madrid, Spain
 SOURCE: Revista de la Real Academia de Ciencias Exactas, Fisicasy Naturales de Madrid (1993), 87(1), 139-46
 CODEN: RCFNAT; ISSN: 0034-0596
 DOCUMENT TYPE: Journal
 LANGUAGE: Spanish

L28 ANSWER 61 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Catalytic composites of the reaction product of a metal halide having Friedel-Crafts activity with the bound surface hydroxyl group of inorg. oxides and containing a zerovalent metal with **hydrogenation** activity, often are effective catalysts in motor fuel alkylation which, however, undergo rapid deactivation. Deactivated catalysts are readily regenerable by treating the composite from which alkylate feedstock was removed with hydrogen at temps. in the range of 10 to 300°. Multiple regenerations are possible without appreciable activity loss.
 ACCESSION NUMBER: 1994:439011 CAPLUS
 DOCUMENT NUMBER: 121:39011
 TITLE: Regeneration of an alkylation catalyst with hydrogen
 INVENTOR(S): Kojima, Masami; Kocal, Joseph A.
 PATENT ASSIGNEE(S): UOP Inc., USA
 SOURCE: U.S., 5 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5310713	A	19940510	US 1993-43954	19930405
US 5391527	A	19950221	US 1993-172960	19931227
CA 2122220	AA	19951027	CA 1994-2122220	19940426
CA 2122220	C	20040629		
AU 668288	B2	19960426	AU 1994-60705	19940427
AU 9460705	A1	19951116		
EP 679437	A1	19951102	EP 1994-303093	19940428
EP 679437	B1	19980819		
AT 169843	E	19980915	AT 1994-303093	19940428
ES 2119082	T3	19981001	ES 1994-303093	19940428
CZ 285674	B6	19991013	CZ 1994-1045	19940429
ZA 9403013	A	19950127	ZA 1994-3013	19940502
RU 2128549	C1	19990410	RU 1994-19493	19940506
CN 1144141	A	19970305	CN 1994-105385	19940507
CN 1068245	B	20010711		
JP 07299363	A2	19951114	JP 1994-94671	19940509
KR 9711082	B1	19970707	KR 1994-10063	19940509
PRIORITY APPLN. INFO.:			US 1993-43954	A2 19930405
			EP 1994-303093	A 19940428

L28 ANSWER 62 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Activation and regeneration procedures applied to a **Ni-Mo/Al2O3** catalyst, both fresh and spent, were tested by hydrosulfurization of thiophene. Characterization techniques used included temperature-programmed **reduction** and oxidation (TPR, TPO), diffuse-reflectance spectroscopy (DRS), and x-ray diffraction (XRD). The fresh catalyst was treated by sulfiding, reoxidn., and resulfiding. This sequence was more effective than one sulfiding step, possibly because of the formation of a **Ni** molybdate phase during reoxidn. The spent catalyst could not be regenerated completely although its original surface properties were attained. The loss of activity of the spent catalysts was suggested by TPO to result from **Ni-Mo** segregation, which probably happened because of the excessive heat from burning of the coke present on the catalyst.
 ACCESSION NUMBER: 1994:438857 CAPLUS
 DOCUMENT NUMBER: 121:38857
 TITLE: Activation and Regeneration of a **NiMo/Al2O3** Hydrotreatment Catalyst
 AUTHOR(S): Teixeira da Silva, V. L. S.; Frety, R.; Schmal, Martin
 CORPORATE SOURCE: Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil
 SOURCE: Industrial & Engineering Chemistry Research (1994), 33(7), 1692-9
 CODEN: IECRED; ISSN: 0888-5885
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 63 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB **Ni-W** hydrotreating catalysts for heavy-oil refining were studied with respect to deactivation and regeneration. The catalysts deactivated by surface accumulation of **Si**, **V**, **S**, and **C** components and by the resulting pore blockage. Temperature-programmed oxidation (TPO) of the deactivated catalysts showed that three kinds of the sulfur and one kind of the carbon species with different oxidation activity existed on the catalyst surface. The **S** and **C** species were removed in two steps during oxidation in a dilute **O** at 450° (i.e., a rapid removal during the first hour and a slow and steady removal thereafter). The surface species were removed more easily when the oxygen content in the regeneration stream was 0.05 atm instead of 0.13 atmospheric. The activity of the regenerated catalyst in propylene **hydrogenation** was also higher when the regeneration gas stream contained a lower amount of oxygen, in accordance with the result of surface species removal. The activity difference was small between the two catalysts regenerated for either 1 h or 7 h because most of the surface species were removed during the initial 1 h. The phys. properties of the regenerated catalysts (e.g., the BET surface area, the pore volume, the average pore diameter and the pore size distribution) were correlated with the extent of activity recovery.
 ACCESSION NUMBER: 1994:327136 CAPLUS
 DOCUMENT NUMBER: 120:327136
 TITLE: Regeneration of **nickel-tungsten** hydrotreating catalysts
 AUTHOR(S): Kim, Il Sup; Han, Jeong Hyun; Moon, Sang Heup
 CORPORATE SOURCE: Dep. Chem. Eng., Seoul Natl. Univ., S. Korea
 SOURCE: Hwahak Konghak (1993), 31(4), 483-91
 CODEN: HHKHAT; ISSN: 0304-128X
 DOCUMENT TYPE: Journal
 LANGUAGE: Korean

L28 ANSWER 64 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The waste catalyst in residual catalytic cracking (RCC) can be regenerated by using a chemical transport process. Thermodyn. anal. and exploratory tests for the removal of the nickel deposit on poisoned catalyst are conducted. Reduction of nickel oxides and carbonylation of nickel are carried out consequently in fluidization process. Effects of degree of nickel compound reduction and carbonylation pressure on the activation of RCC catalysts are examined

ACCESSION NUMBER: 1994:302926 CAPLUS
 DOCUMENT NUMBER: 120:302926
 TITLE: Chemical transport: study on regeneration of RCC poisoned catalyst
 AUTHOR(S): Luo, Baolin; Sun, Kuiyuan; Yang, Chengyan; Xu, Junding
 CORPORATE SOURCE: Inst. Chem. Metall., Chin. Acad. Sci., Beijing, 100080, Peop. Rep. China
 SOURCE: Huagong Yejin (1993), 14(4), 370-5
 CODEN: HUYEEF; ISSN: 1001-2052
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

L28 ANSWER 65 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The oxidative regeneration of spent cobalt-molybdate and nickel-tungstate catalysts from hydrotreatment of petroleum vacuum gas oil and coal-derived oil was carried out in a fixed bed reactor. Temperature-programmed oxidation studies revealed that oxidation proceeded mainly in two steps (i.e., removal of sulfidic sulfur as SO₂ at around 500-600 K and removal of carbon as CO₂ and CO at around 650-850 K). Carbonaceous materials on the spent Ni-W catalyst were less aromatic than those on the spent Co-Mo catalyst, but more severe oxidation conditions were needed for the Ni-W catalyst because of the lower oxidation activity of NiO and WO₃ compared with Co₃O₄ and MoO₃. For the Ni-W catalyst, EXAFS data revealed that WS₂-like structures, which were laterally grown during the hydrotreatment run, were redispersed to nearly the same level as that of the fresh catalysts when carefully controlled oxidizing conditions were used (1.5% O₂). XPS data showed that surface compns. of Ni and W were recovered to almost the level of fresh catalysts, but the Ni-W ratio was slightly less than that of the fresh ones. Catalytic activities and selectivities were successfully recovered by low-temperature oxidation. On the contrary, for the Co-Mo catalyst on which MoS₂-like sulfides were laterally grown, some of the Co aggregated to Co₉S₈, and small amts. of Ni, Fe, and V were deposited, it was not possible to recover the same level of structural properties as those of the fresh catalysts. The catalytic activities and selectivities were almost recovered by low-temperature oxidation, while at higher regeneration temps. there was a slight loss of hydrogenation activity and a large increase in the hydrocracking activity.

ACCESSION NUMBER: 1994:168314 CAPLUS
 DOCUMENT NUMBER: 120:168314
 TITLE: Oxidative Regeneration of Spent Molybdate and Tungstate Hydrotreating Catalysts
 AUTHOR(S): Yoshimura, Y.; Sato, T.; Shimada, H.; Matsubayashi, N.; Imamura, M.; Nishijima, A.; Yoshitomi, S.; Kameoka, T.; Yanase, H.
 CORPORATE SOURCE: National Institute of Materials and Chemical Research, Tsukuba, 305, Japan
 SOURCE: Energy & Fuels (1994), 8(2), 435-45
 CODEN: ENFUEM; ISSN: 0887-0624
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 66 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A method is provided for regenerating a mol. sieve-free resid hydroprocessing catalyst for use with an ebullated bed reaction process comprising 21 hydrogenation metal and at least one Group IIA metal deposited on an inorg. oxide support wherein the catalyst contains a pore volume of pores having a diameter >1200 Å of >0.05 ml/g. The method comprises the steps of contacting the mol. sieve-free resid hydroprocessing catalyst with a contaminant metal-containing hydrocarbon feedstream in a first contacting step at conditions sufficient to deposit contaminant metals and coke onto the catalyst; and contacting the coke-deactivated, contaminant metal-containing, mol. sieve-free catalyst with an oxygen-containing gas in a second contacting step at oxidation conditions sufficient to remove a substantial amount of the coke from the coke-deactivated, contaminant metal-containing, mol. sieve-free catalyst. The loss on attrition of the regenerated mol. sieve-free resid hydroprocessing catalyst after the second contacting step is <10% by weight of fines per day calculated based on a regeneration temperature of approx. 900° F.

ACCESSION NUMBER: 1994:111519 CAPLUS
 DOCUMENT NUMBER: 120:111519
 TITLE: Process for regenerating a spent resid catalyst using a Group IIA metal
 INVENTOR(S): Clark, Frederick T.; Hensley, Albert L., Jr.
 PATENT ASSIGNEE(S): Amoco Corp., USA
 SOURCE: U.S., 14 pp. Cont.-in-part of U.S. Ser. No. 785,452, abandoned.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5275990	A	19940104	US 1992-955496	19921002
PRIORITY APPLN. INFO.:				
			US 1991-785452	19911031

L28 ANSWER 67 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A refinery catalyst is regenerated by burning off coke in an air stream to give an off-gas; nitrogen oxides (NOx) are removed from the off-gas by contact with a hydrogen catalyst before cryogenic recovery of hydrocarbons from the off-gas.

ACCESSION NUMBER: 1994:34361 CAPLUS
 DOCUMENT NUMBER: 120:34361
 TITLE: Nitrogen oxide removal process
 INVENTOR(S): Carnell, Peter John Herbert
 PATENT ASSIGNEE(S): Imperial Chemical Industries PLC, UK
 SOURCE: Eur. Pat. Appl., 5 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 571130	A1	19931124	EP 1993-303676	19930512
EP 571130	B1	19960320		
R: DE, FR, GB, IT, NL				
CA 2096774	AA	19931123	CA 1993-2096774	19930521
US 5340554	A	19940823	US 1993-65391	19930521
PRIORITY APPLN. INFO.:				
			GB 1992-10926	19920522
			GB 1992-24659	19921125

L28 ANSWER 68 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB In the title method, the feed oil containing 1-methylnaphthalene (I) is subjected to **hydrogenation**. The resulting oil is then subjected to the isomerization process. Thus I was fed to a **hydrogenation** reactor containing Ni and H₂. The product contained mainly I and 0.2% 1-methyltetralin (II). The product was fed to a reactor containing protonically exchanged Y zeolite at 450° to give 2-methylnaphthalene with 70% conversion and 90% selectivity, vs. 25% conversion in a process using a feed oil which does not contain II. II restored the activity of the isomerization catalyst.

ACCESSION NUMBER: 1993:673869 CAPLUS
DOCUMENT NUMBER: 119:273869
TITLE: Method for preparation of 2-methylnaphthalene by isomerization of 1-methylnaphthalene
INVENTOR(S): Suzuki, Toshihide; Nobusawa, Tatsuya; Takagi, Yoshinori
PATENT ASSIGNEE(S): Kawasaki Steel Co, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05246907	A2	19930924	JP 1992-50907	19920309
PRIORITY APPLN. INFO.:			JP 1992-50907	19920309

L28 ANSWER 69 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB In processes for the regeneration of catalysts, such as **hydrogenation** catalysts, and the defouling of objects, which are contaminated with carbonaceous deposits, the catalyst or object is contacted with water, oxygen-containing gas, and at least one alkaline material maintained at a pH of at least 7.0, and at a temperature and pressure sufficient to combust at least a portion of the carbonaceous deposits.

ACCESSION NUMBER: 1993:568503 CAPLUS
DOCUMENT NUMBER: 119:168503
TITLE: Processes for regenerating catalysts contaminated with carbonaceous materials
INVENTOR(S): Van Driesen, Roger
PATENT ASSIGNEE(S): ABB Lummus Crest Inc., USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5217935	A	19930608	US 1992-877231	19920501
PRIORITY APPLN. INFO.:			US 1992-877231	19920501

L28 ANSWER 70 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A method for regenerating a contaminant metal-containing, residual oil hydroprocessing mol. sieve-free catalyst for use with an ebullated bed reaction process and having **hydrogenation** metal and Zr Group IV metal deposited on an inorg. oxide support comprises contacting the catalyst with an O-containing gas under conditions sufficient to remove a substantial amount of coke from the catalyst. The catalyst regeneration process involves an initial partial coking step where the spent catalyst is contacted with an O-containing gas at 400-700°F, followed by the addition of a Group IV metal such that the partially decoked catalyst contains 0.1-20 weight% of the Group IV metal calculated as the oxide and based on the fresh weight of the catalyst, and then a final decoking step at 600-1400°F. The presence of the Group IV metal on the catalyst during regeneration increases the attrition resistance of the catalyst.

ACCESSION NUMBER: 1993:563819 CAPLUS
DOCUMENT NUMBER: 119:163819
TITLE: Process for regenerating a spent resid hydroprocessing catalyst using a Group IV metal
INVENTOR(S): Clark, Frederick T.; Springman, Mary C.
PATENT ASSIGNEE(S): Amoco Corp., USA
SOURCE: U.S., 15 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5232885	A	19930803	US 1991-812131	19911218
PRIORITY APPLN. INFO.:			US 1991-812131	19911218

L28 ANSWER 71 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A process for regenerating a **hydrogenation** catalyst for hydrocarbon oils (e.g., Arabian heavy vacuum residue) comprising a support of an inorg. substance and an active metal component is carried out by oxidative burning of the coke deposited on the catalyst so that the regenerated catalyst has a residual coke content of 0.5-10.0 weight%; the residual coke content is expressed by the weight loss of the regenerated catalyst caused by calcining the regenerated catalyst in an atmospheric of air at 550° for 8 h. The process recovers the catalytic activities of the catalyst sufficiently, extends the lifetime of the catalyst in repeated use, prevents the catalyst from damage due to the regeneration, and, in hydrodesulfurization processes, permits omission of presulfurization of the regenerated catalyst.

ACCESSION NUMBER: 1993:476185 CAPLUS
DOCUMENT NUMBER: 119:76185
TITLE: A process for regenerating hydrocarbon oil **hydrogenation** catalysts
INVENTOR(S): Noguchi, Yuji; Itoh, Toshio
PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 541994	A1	19930519	EP 1992-117833	19921019
R: BE, CH, DE, FR, GB, IT, LI, NL, SE	A2	19930521	JP 1991-315188	19911105
JP 05123586	B2	20001120		
CA 2081718	AA	19930506	CA 1992-2081718	19921029
PRIORITY APPLN. INFO.:			JP 1991-315188	A 19911105

L28 ANSWER 72 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Regeneration of Ni-Mo catalysts, for heavy vacuum residues, was studied under various conditions. Coke combustion during **catalyst regeneration** consisted of 3 steps. The first step was controlled by the amount of O, the second by O diffusion in catalyst pores, and the third by the amount of S compds., which are difficult to burn. Catalyst surface area and Mo dispersion on the catalyst were influenced strongly by steam. When regeneration was stopped before complete C oxidation and the residual coke content was 1.0-3.0 weight%, V on catalyst was tetravalent and inactive. The amount of Mo on the catalyst, catalyst surface area, and **hydrogenation** activity decreased slightly.

ACCESSION NUMBER: 1993:257784 CAPLUS
 DOCUMENT NUMBER: 118:257784
 TITLE: Regeneration of heavy oil hydrotreating catalyst
 AUTHOR(S): Noguchi, Y.; Itoh, T.; Obayashi, Y.; Komine, K.
 CORPORATE SOURCE: Cent. Res. Lab., Idemitsu Kosan Co., Ltd., Sodegaura, 299-02, Japan
 SOURCE: Preprints - American Chemical Society, Division of Petroleum Chemistry (1993), 38(1), 50-3
 CODEN: ACPCAT; ISSN: 0569-3799
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 73 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Different methods of artificially depositing contaminant metals on FCC (fluid catalytic cracking) catalysts are compared. The properties and distribution of the deposited metals were studied by XPS, electron probe microanal. (EPMA), O adsorption, and temperature programmed **reduction** (TPR). Cyclic deposition and aging of the metals in a fixed fluidized-bed reactor using a severe hydrothermal environment during **catalyst regeneration** provides the best comparison to equilibrium catalysts. The metals initially deposit on the outer surface of the catalyst particles, giving a shell impregnation profile. Under severe hydrothermal conditions, Ni and V migrate into the bulk of the catalyst particles. This process occurs simultaneously with zeolite dealumination and the formation of mesopores in the catalyst. Also this procedure produces selectivities approaching those of equilibrium catalysts, not only for coke and H, but also for all other products. Comparison of several metal resistant catalysts reveal that different rankings are obtained depending on the method used to deposit the metals.

ACCESSION NUMBER: 1993:172150 CAPLUS
 DOCUMENT NUMBER: 118:172150
 TITLE: Evaluation of metals-contaminated FCC catalysts
 AUTHOR(S): Haas, A.; Suarez, W.; Young, G. W.
 CORPORATE SOURCE: Grace, GmbH, Worms, Germany
 SOURCE: AIChE Symposium Series (1992), 291(Advanced Fluid Catalytic Cracking Technology), 133-42
 CODEN: ACSSCQ; ISSN: 0065-8812
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 74 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Catalytic activity of Ni for C gasification is initially high at 500-700°, but it disappears when the reaction is repeated or the specimen is preheated in an inert atmospheric >700°. The deactivated catalyst was regenerated by a treatment with steam at 700-800° and subsequent **reduction** at 350°. The surface state of Ni on C was inferred by temperature-programmed desorption (TPD) of H, and a correlation was found between the TPD patterns and the catalytic activity for gasification. Catalytic activity of the Ni for CO₂ conversion in 1% CO₂ + 99% H₂ mixture deactivated, and the catalyst was regenerated in a similar way as that observed for gasification.

Redispersed of Ni and, possibly, removal of contaminants are thought to be responsible for the observed **catalyst regeneration**.

ACCESSION NUMBER: 1993:133020 CAPLUS
 DOCUMENT NUMBER: 118:133020
 TITLE: Regeneration of nickel catalyst on carbon
 AUTHOR(S): Haga, Tetsuya; Nishiyama, Yoshiyuki
 CORPORATE SOURCE: Inst. Chem. React. Sci., Tohoku Univ., Sendai, 980, Japan
 SOURCE: Journal of Catalysis (1993), 140(1), 168-72
 CODEN: JCTLAS; ISSN: 0021-9517
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 75 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A prolonged lifetime of a Ni-faujasite zeolite methanation catalyst and a stable rate of methanation can be achieved by operating the fluidized catalyst bed under unsteady-state conditions. A higher rate of methanation is accompanied by a shift in selectivity compared to a steady state operation due to an enhanced disproportionation of CO.

ACCESSION NUMBER: 1993:83216 CAPLUS
 DOCUMENT NUMBER: 118:83216
 TITLE: In situ perpetual regeneration of a Ni -faujasite methanation catalyst
 AUTHOR(S): Jaeger, N. I.; Schulz-Ekloff, G.; Kapicka, Jiri
 CORPORATE SOURCE: Inst. Angew. Phys. Chem., Univ. Bremen, Bremen, D-2800/33, Germany
 SOURCE: Catalysis Letters (1992), 14(3-4), 331-7
 CODEN: CALBER; ISSN: 1011-372X
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 76 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The alkylation and dealkylation activities of Ni-loaded Y zeolites, prepared by ion exchange and impregnation, are related to the surface Brønsted acidity. The effect on the level of protonic activity of varying the alkali metal cocation (Li⁺, Na⁺, K⁺, Rb⁺, or Cs⁺) and the inclusion of Ce³⁺ ions is discussed. Catalyst precursor reduction temperature, catalyst precalcination, reaction temperature, acid poisoning by pyridine adsorption, coke deposition, and catalyst regeneration were catalytic efficiency parameters. The presence of Ni metal on the support enhanced the ethylation and cracking activities by converting coke precursors. In the case of C₆H₆ ethylation, Et₂C₆H₄ were formed over the most active samples; the relative distributions of the ortho- para-, and meta-isomers are reported. Data on C₆H₆ ethylation over Ni-impregnated SiO₂ and Al₂O₃ catalysts are also compared.

ACCESSION NUMBER: 1993:59085 CAPLUS
 DOCUMENT NUMBER: 118:59085
 TITLE: Benzene ethylation and cumene dealkylation over nickel-loaded Y zeolites
 AUTHOR(S): Coughlan, Brendan; Keane, Mark A.
 CORPORATE SOURCE: Phys. Chem. Lab., Univ. Coll., Galway, Ire.
 SOURCE: Journal of Catalysis (1992), 138(1), 164-78
 CODEN: JCTLAS; ISSN: 0021-9517
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 118:59085

L28 ANSWER 77 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Two spent catalysts, obtained from different hydrodemetalation operations, were regenerated by 2 different treatments, viz. 2 vol% O in N and air. One spent catalyst (B), contained 3 weight% V and 15 weight% C, while the other (H) contained 10 weight% V, 14 weight% C and 8 weight% Fe. After regeneration in the O-N stream, catalyst B showed essentially complete recovery of its original surface area, whereas catalyst H showed only 70% recovery. Both catalysts showed substantial losses in surface area by the air treatment. Catalytic activity tests on the regenerated catalysts for hydrodesulfurization of thiophene and for hydrogenation of 1-hexene showed low recovery of activities, even for the regenerated catalyst in which the surface area had been completely recovered. X-ray diffraction analyses of the spent-regenerated catalysts revealed substantial changes in catalyst structure. Surface area and catalytic activity results were qual. explained by these catalyst structural changes.

ACCESSION NUMBER: 1993:41953 CAPLUS
 DOCUMENT NUMBER: 118:41953
 TITLE: Structure and catalytic activity of regenerated spent hydrotreating catalysts
 AUTHOR(S): Kim, C. S.; Massoth, F. E.; Furimsky, Edward
 CORPORATE SOURCE: Dep. Fuels Eng., Univ. Utah, Salt Lake City, UT, 84112, USA
 SOURCE: Fuel Processing Technology (1992), 32(1-2), 39-46
 CODEN: FPTEDY; ISSN: 0378-3820
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 78 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The effect of reaction environment on physicochem. characteristics of a Ni-containing oxide-type catalyst of thermooxidative cracking of petroleum residue (obtained based on a Ni-Al alloy, promoted with In and Ga) was studied. Cracking of petroleum distillation residue leads to redox processes, and transitions of NiAl₂O₄ and NiO to Ni present in the original catalyst, occurs. A strong tendency of Ni and Al for collocation was also observed. Gasification of coke deposits on the catalyst leads to further reduction of NiO to Ni and In₂O₃ to In, during which part of the NiO and In₂O₃ phases becomes amorphous. Catalyst regeneration restores physicochem. characteristics.

ACCESSION NUMBER: 1992:554166 CAPLUS
 DOCUMENT NUMBER: 117:154166
 TITLE: Effect of reaction environment on the characteristics of a nickel-containing oxide catalyst for thermooxidative cracking of residue
 AUTHOR(S): Akhverdiev, R. B.; Mirzaeva, L. M.; Guseinova, A. D.; Mamedova, A. Kh.; Gadzhi-Kasumov, V. S.; Yakerson, V. I.; Sarmurzina, R. G.; Guseinova, M. G.; Timakov, I. A.
 CORPORATE SOURCE: Inst. Neftekhim. Protess. im. Mamedaliev, Baku, Azerbaijan
 SOURCE: Neftekhimiya (1992), 32(2), 125-9
 CODEN: NEFTAH; ISSN: 0028-2421
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 79 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The hydrogenation of C₆H₆ to cyclohexane was investigated over a range of Ni-exchanged and nickel-impregnated Y zeolites, varying the Ni content and the nature of the alkali metal cocation (Li⁺, Na⁺, K⁺, Rb⁺, or Cs⁺). With a view to optimizing C₆H₆ conversion levels, the following catalytic parameters were studied: reaction temperature, reaction time, C₆H₆ flow rate, and coke deposition. The observed catalytic activities were correlated with previously reported phys. characterizations. C₆H₆ hydrogenation increased in the order: NiLiY < NiNaY < NiKY < NiRbNaY < NiCsNaY. Catalyst deactivation resulted from the deposition of involatile coke on the catalyst surface, promoted by increasing zeolite acidity. The effects of poisoning the surface Brønsted acid sites by adsorption of ammonia onto the activated reduced zeolites were considered. The results of catalyst regeneration by high-temperature oxidation of the coke deposits were also reported.

ACCESSION NUMBER: 1992:108776 CAPLUS
 DOCUMENT NUMBER: 116:108776
 TITLE: Catalyst deactivation during the hydrogenation of benzene over nickel-loaded Y zeolites
 AUTHOR(S): Coughlan, Brendan; Keane, Mark A.
 CORPORATE SOURCE: Phys. Chem. Lab., Univ. Coll., Galway, Ire.
 SOURCE: Journal of Molecular Catalysis (1992), 71(1), 93-109
 CODEN: JMCADS; ISSN: 0304-5102
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 90 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A detailed examination of 2 regenerated Ni-Mo/AL2O3 catalysts, withdrawn from a lube hydrofinishing reactor after 8 and 12 yr operation, was carried out. The decrease in surface area, pore volume, and molybdena dispersion, or the decline in thiophene hydrosulfurization activity, of the samples, compared with fresh catalyst, are not related to deactivation. Temperature-programmed reduction results point to the increased difficulty of reduction of Ni(Mo) species at low temperature in the regenerated samples. X-ray photoelectron spectroscopic data indicate declining Ni-Mo atomic ratios on the exterior of the catalyst due to probable more-extensive migration of Ni than Mo during continuous use and repeated regenerations.

ACCESSION NUMBER: 1991:562615 CAPLUS
 DOCUMENT NUMBER: 115:162615
 TITLE: Monitoring the performance of nickel-molybdenum-alumina catalyst in lube hydrofinishing through catalyst characterization
 AUTHOR(S): Ramaswamy, A. V.; Sharma, L. D.
 CORPORATE SOURCE: Natl. Chem. Lab., Pune, 411 008, India
 SOURCE: Studies in Surface Science and Catalysis (1991), 68(Catal. Deact. 1991), 707-15
 CODEN: SSCTDM; ISSN: 0167-2991
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 91 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The title apparatus comprises a 1st fixed bed of oxidation catalysts containing 21 of Pt, Pd, and Rh to combust CO and the unburned hydrocarbons upstream of the flue ducts, and a 2nd fixed bed of denitration catalysts containing 21 oxides of Ti, V, Mo, W, Fe, Ni and Sn located downstream, means for monitoring boiler load and the concns. of NOx in the outlet and inlet of the denitration catalyst bed, means for optimizing the amts. of NH3 injection into the inlet side of the denitration catalyst bed, and means for controlling the amount of SO3 or SO2 gas injection during the regeneration of spent denitration catalysts based on the feedback signals from the monitors. The apparatus extends the service life of denitration catalysts and has lower construction cost.

ACCESSION NUMBER: 1991:253289 CAPLUS
 DOCUMENT NUMBER: 114:253289
 TITLE: Apparatus for treatment of boiler flue gases and the regeneration of spent catalysts
 INVENTOR(S): Mitsumura, Hiroyuki; Ikeshoji, Susumu; Myata, Kazuaki;
 PATENT ASSIGNEE(S): Nagamine, Shogo; Murakami, Toshio
 SOURCE: Babcock-Hitachi K. K., Japan
 Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03052626	A2	19910306	JP 1989-188584	19890720
PRIORITY APPLN. INFO.:			JP 1989-188584	19890720

L28 ANSWER 82 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Methods for regenerating S-poisoned Fe-group catalysts, especially supported Ni catalysts, are described which entail bringing the catalyst into contact with a fermentation mixture comprising a suspension of a growing or living resting sulfide-oxidizing bacteria. The bacteria may be Ectothiorhodospira shaposhnikovii (especially strain WKM W 1525 D).

ACCESSION NUMBER: 1991:235840 CAPLUS
 DOCUMENT NUMBER: 114:235840
 TITLE: Method for regenerating catalysts poisoned by sulfur
 INVENTOR(S): Beck, Dieter; Heinritz, Hans Joerg; Wiessner, Arndt; Anders, Klaus; Wilde, Michael; Geyer, Reinhard; Lambrecht, Wolfgang
 PATENT ASSIGNEE(S): Akademie der Wissenschaften der DDR, Institut fuer Biotechnologie, Ger. Dem. Rep.
 SOURCE: Ger. (East), 4 pp.
 CODEN: GEXXA8
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 285024	A5	19901205	DD 1989-329834	19890622
PRIORITY APPLN. INFO.:			DD 1989-329834	19890622

L28 ANSWER 83 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A process for regeneration of cracking catalyst while minimizing NOx emissions is disclosed. An additive is present in an amount which reduces NOx emissions, but does not passivate metals (such as Ni and V) deposited on the catalyst during the cracking reaction nor CO combustion promoter which may be present. Relatively small amts. of Sb oxides impregnated on a sep. support having little or no cracking activity are preferred.

ACCESSION NUMBER: 1991:146752 CAPLUS
 DOCUMENT NUMBER: 114:146752
 TITLE: Reducing nitrogen oxides emissions with antimony additive
 INVENTOR(S): Chin, Arthur A.
 PATENT ASSIGNEE(S): Mobil Oil Corp., USA
 SOURCE: U.S., 7 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4998432	A	19910129	US 1989-458052	19891228
PRIORITY APPLN. INFO.:			US 1989-458052	19891228

L28 ANSWER 84 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A Raney **nickel** catalyst for **reduction** of tris(hydroxymethyl)nitromethane (I) by H₂ is regenerated using ammonium formate, or an aliphatic amine formate (produced in situ from stoichiometric amts. of HCO₂H and an amine base). Thus, a MeOH solution of Raney **nickel** was saturated with H₂, and mixed with I. After 2.5 h **reduction**, the postreaction liqs. and the catalyst were separated. The catalyst was washed, then mixed with MeOH. This solution was saturated with H₂, added with Et₃N and 30% aqueous HCO₂H (in the amount stoichiometric with respect to Et₃N), and with MeOH solution of I. The above process was repeated 5 times; Raney **nickel** showed no **reduction** of its catalytic activity. The yield of the product tris(hydroxymethyl)aminomethane produced from the combined postreaction liqs. was 83.7% (of the theor. value).

ACCESSION NUMBER: 1991:130228 CAPLUS
 DOCUMENT NUMBER: 114:130228
 TITLE: Method of regenerating Raney **nickel** catalyst for **reduction** of tris-(hydroxymethyl)nitromethane
 INVENTOR(S): Mazurkiewicz, Roman; Szeja, Wieslaw; Kiersznicki, Tadeusz
 PATENT ASSIGNEE(S): Politechnika Slaska, Pol.
 SOURCE: Pol., 2 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Polish
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PL 138692	B1	19861031	PL 1983-245531	19831230

PRIORITY APPLN. INFO.: PL 1983-245531 19831230

OTHER SOURCE(S): CASREACT 114:130228

L28 ANSWER 85 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Ni-W/Al₂O₃ used for hydrotreating of petroleum for >3 yr were regenerated by 2 calcination methods. One is 1-step calcination at 500° in a stream of an O/N mixture (21 volume% O). The other is stepwise calcination at 300, 400, and 500° in a stream of an O/N mixture (2 volume% O). The latter method was better in restoring both the **hydrogenation** and hydrocracking activities. To clarify structural change of active metals in regeneration and mechanisms of deactivation, oxide and sulfide catalysts were investigated by EXAFS of Ni K-edge and W LIII-edge. Ni and W aggregate in 1-step calcination. This aggregation is caused by rapid burning of carbonaceous deposits. The aggregation has great influence on deactivation of catalysts. Stepwise calcination was effective in removal of carbonaceous deposits without aggregation of active metals.

ACCESSION NUMBER: 1991:46143 CAPLUS
 DOCUMENT NUMBER: 114:46143
 TITLE: EXAFS study on regeneration of **nickel** -tungsten/alumina catalysts
 AUTHOR(S): Matsubayashi, Nobuyuki; Shimada, Hiromichi; Sato, Toshio; Yoshimura, Yuji; Nishijima, Akio; Tamayama, Masaaki; Mori, Yusuke; Kawamata, Hiroyuki; Abe, Masahiko; Ogino, Keizo
 CORPORATE SOURCE: Natl. Chem. Lab. Ind., Tsukuba, 305, Japan
 SOURCE: Shokubai (1990), 32(6), 354-7
 CODEN: SHKUAJ; ISSN: 0559-8958
 DOCUMENT TYPE: Journal
 LANGUAGE: Japanese

L28 ANSWER 86 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent Ni **hydrogenation** catalyst was processed into fresh catalyst by extracting the fat, leaching Ni as sulfate, converting the sulfate to formate, and **reduction** of the Ni to metal. A stainless steel activation unit with a capacity of 150 kg/batch was used to degrade Ni formate at 230°. A mixture of saturated fat and Ni formate was heated from 150° to 230° at 0.5° min during H₂ gas bubbling, allowed to stand for 1 h, and then cooled with H₂ gas bubbling to 150°. Diatomaceous earth was added to give a catalyst containing fat 61, Ni 21, and diatomaceous earth 12 kg/100 kg. The catalyst is suitable for preparation of margarine, shortening, and related products.

ACCESSION NUMBER: 1990:439109 CAPLUS
 DOCUMENT NUMBER: 113:39109
 TITLE: Regeneration of **nickel** catalyst
 AUTHOR(S): Raie, M. A.; Ahmad, Manzoor
 CORPORATE SOURCE: PCSIR Lab., Lahore, Pak.
 SOURCE: Pakistan Journal of Scientific and Industrial Research (1989), 32(12), 837-9
 CODEN: PSIRAA; ISSN: 0030-9885
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 87 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Ni-containing Al₂O₃- or SiO₂-supported catalysts were nearly completely regenerated in the continuous process of suspension **hydrogenation** of 1,4-butyne diol solns. by a temporary **redn** of the working pressure of H followed by reestablishment of the original pressure. Thus, a 1.44 M aqueous 1,4-butyne diol solution was **hydrogenated** at 353 K and 1.5 MPa H at the rate of 1 L/h in the presence of a Ni-containing SiO₂-supported catalyst suspension whose activity dropped 37% after 50 h. H stream was turned off, the reactor pressure was reduced to, and kept at 0.1 MPa for 300 s, and the working pressure reestablished which resulted in an essentially complete restoration of the original catalyst activity.

ACCESSION NUMBER: 1990:157673 CAPLUS
 DOCUMENT NUMBER: 112:157673
 TITLE: The regeneration of Ni catalyst in **hydrogenation** of 1,4-butyne diol
 INVENTOR(S): Goetz, Reiner; Martens, Hans Werner; Turek, Fritz; Otto, Burkard; Sieble, Holger; Weisbach, Lothar; Ulrich, Alfred; Busse, Doris
 PATENT ASSIGNEE(S): VEB Chemische Werk, Ger. Dem. Rep.
 SOURCE: Ger. (East), 7 pp.
 CODEN: GEXXA8
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 272644	A1	19891018	DD 1984-263404	19840525

PRIORITY APPLN. INFO.: DD 1984-263404 19840525

OTHER SOURCE(S): CASREACT 112:157673

L28 ANSWER 88 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The oxidative regeneration of Ni molybdate and Co molybdate catalysts from hydrotreatment of coal-derived oils and petroleum vacuum gas oil was carried out in thermogravimetric and fixed bed reactors. During the temperature-programmed burnoff, O uptake by carbonaceous deposits was followed by decomposition of surface complexes, yielding CO₂ as the main product. The oxidation of metal sulfides to corresponding oxides was accompanied by SO₂ formations, which exhibited 2 maximum, one maximum from oxidation of sulfidic S and the other from decomposition of sulfate as well as the oxidation of organic S. XPS data showed that small amts. of S remained on the regenerated catalysts in the form of sulfates. Refractory nature for C removal correlated with the aromaticities of the carbonaceous deposits. With the recoveries of fine structures of supported metals, hydrogenation and hydrocracking activities were almost recovered to the level of the fresh catalysts. Deposited metals, such as Ni, V, and Fe, affected the fine structure redispersion. They also contributed to the increase in hydrocracking activity, due to synergistic effects.

ACCESSION NUMBER: 1989:460778 CAPLUS
 DOCUMENT NUMBER: 111:60778
 TITLE: Effective regeneration of nickel-molybdate and cobalt-molybdate hydrotreating catalysts
 AUTHOR(S): Yoshimura, Yujii; Furinsky, Edward; Sato, Toshio; Shimada, Hiromichi; Matsubayashi, Nobuyuki;
 Nishijima, Akio
 CORPORATE SOURCE: Natl. Chem. Lab. Ind., Tsukuba, 305, Japan
 SOURCE: Proc. - Int. Congr. Catal., 9th (1988), Volume 1, 136-43. Editor(s): Phillips, M. J.; Ternan, M.
 Chem. Inst. Can.: Ottawa, Ont.
 CODEN: 56NZA9
 DOCUMENT TYPE: Conference
 LANGUAGE: English

L28 ANSWER 90 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Spent Shell 424 Ni molybdate catalyst supported on γ -Al₂O₃, which was used to hydrotreat a synfuel distillate, was regenerated by burnoff with a wide-O-concentration-range medium. A linear correlation was established between O concentration and the ΔT parameter (difference between the maximum temperature and the bed temperature before the admission of oxidizing gas) reflecting the temperature runaway on the oxidizing gas admission. The addition of steam or CO₂ resulted in a dilution effect only. Catalyst pretreatment by extraction and reduction resulted in a significant increase in the initial rate of SO₂ in CO and CO₂ yields.

ACCESSION NUMBER: 1989:98370 CAPLUS
 DOCUMENT NUMBER: 110:98370
 TITLE: Effect of oxygen concentration on temperature runaway during regeneration of hydrotreating catalyst
 AUTHOR(S): Furinsky, Edward
 CORPORATE SOURCE: Energy Res. Lab., Canada Cent. Miner. Energy Technol.,
 Ottawa, ON, K1A 0G1, Can.
 SOURCE: Applied Catalysis (1988), 44(1-2), 189-98
 CODEN: APCADI; ISSN: 0166-9834
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 89 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The kinetics and mechanisms of leaching of metals (V and Ni) from spent atmospheric residue hydrosulfurization catalysts and from pure metal sulfides (V₂S₃ and NiS) were studied using oxalic acid. An increase in temperature from 25-75° increased the extent of leaching significantly. Acid concns. of 0.33-1.0M had little effect on the rate of metal leaching. The kinetics of leaching of pure metal sulfides by oxalic acid was controlled by a chemical reaction, the rate-determining step being the formation of metal ions from metal sulfides. Conversely, with spent catalyst, mass transfer in the C matrix deposits was rate controlling. Build-up of a passivating layer of the product was observed after some leaching. Subsequent leaching was dictated by the slow removal of this film followed by a relatively fast attack on exposed sulfides. Metal leaching resulted in substantial increases in the surface area and hydrosulfurization activity.

ACCESSION NUMBER: 1989:413036 CAPLUS
 DOCUMENT NUMBER: 111:13036
 TITLE: Regeneration of spent hydroprocessing catalysts: metals removal
 AUTHOR(S): Marafi, M.; Stanislaus, A.; Mumford, C. J.; Fahim, M.
 CORPORATE SOURCE: Pet. Technol. Dep., Kuwait Inst. Sci. Res., Kuwait
 SOURCE: Applied Catalysis (1989), 47(1), 85-96
 CODEN: APCADI; ISSN: 0166-9834
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 91 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The adsorption properties and activity of Co and Ni catalysts were studied by temperature-programmed desorption (TPD) of CO and by methanation test. C accumulated on the catalyst surface CO by disproportionation of CO at elevated temps. Catalysts with surface C deposited at 450° deactivated more rapidly than those with C deposited at 300°. The former are more easily regenerated by H treatment than the latter. Co undergoes more severe deactivation than Ni by surface C accumulation, but it is readily regenerated by H treatment. Catalyst deactivation by surface C could be monitored by changes in the TPD chromatogram, but the catalyst regeneration process could not be monitored, suggesting that the structure of the catalysts were modified during the deactivation and regeneration processes.

ACCESSION NUMBER: 1988:119754 CAPLUS
 DOCUMENT NUMBER: 108:119754
 TITLE: Carbon-deactivation and regeneration of supported cobalt and nickel catalysts
 AUTHOR(S): Moon, Sang H.; Lee, Sang W.; Sung, Byuck P.
 CORPORATE SOURCE: Coll. Eng., Seoul Natl. Univ., S. Korea
 SOURCE: Hwahak Konghak (1987), 25(5), 468-76
 CODEN: HKKHAT; ISSN: 0304-128X
 DOCUMENT TYPE: Journal
 LANGUAGE: Korean

L28 ANSWER 92 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The metal-containing spinels for reducing the SOx and/or NOx emitted during regeneration of a hydrocarbon cracking unit have a 1st metal, e.g. Mg, and a 2nd metal having a valence higher than the valence of the 1st metal, e.g. Al, a minor amount of ≥1 3rd metal, e.g., group IB, IIB, or VIA metals, rare earth metals, Pt group metals or mixts. thereof, and a 4th metal, e.g. Fe, Ni, Ti, Cr, Mn, Co, Be, Sn, Bi, Mo, Sb, V, and mixts. thereof. The 3rd metal promotes SO2 oxidation to SO3 and the 4th metal promotes reduction of the 1st metal sulfate. Thus, Mg-Al-containing spinels containing 5% Sn and 5% Ce had substantial SOx removal activity and reduced NOx emissions.

ACCESSION NUMBER: 1988:61733 CAPLUS
 DOCUMENT NUMBER: 108:61733
 TITLE: Metal-containing spinel composition and process of using same
 INVENTOR(S): Yoo, Jin Sun; Radlowski, Cecelia Ann; Karch, John Albert; Bhattacharyya, Alakananda
 PATENT ASSIGNEE(S): Katalistiks International, Inc., USA
 SOURCE: PCT Int. Appl., 54 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8706157	A1	19871022	WO 1987-US750	19870407
W: AU, BR, JP				
RW: AT, BE, DE, FR, GB, IT, NL, SE				
US 4790982	A	19881213	US 1986-848954	19860407
AU 8772815	A1	19871109	AU 1987-72815	19870407
AU 594766	B2	19900315		
EP 263171	A1	19880413	EP 1987-903035	19870407
EP 263171	B1	19921125		
R: AT, BE, DE, FR, GB, IT, NL, SE				
BR 8707261	A	19880419	BR 1987-7261	19870407
JP 01500250	T2	19890202	JP 1987-502371	19870407
JP 07029054	B4	19950405		
CA 1293967	A1	19920107	CA 1987-534085	19870407
AT 82706	E	19921215	AT 1987-903035	19870407
US 4963520	A	19901016	US 1988-180577	19880801
AU 8945836	A1	19900405	AU 1989-45836	19891205
AU 620178	B2	19920213		
JP 06210177	A2	19940802	JP 1993-278924	19931001
PRIORITY APPLN. INFO.:			US 1986-848954	19860407
			EP 1987-903035	19870407
			WO 1987-US750	19870407

L28 ANSWER 94 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A process for reactivating spent catalysts containing zeolite and for removing NH3 or its precursors from the zeolite comprises (a) passing H over the spent catalyst composition at 850-950°F and 200-1000 psig, and then (b) contacting the resulting catalyst with a polar hydrocarbon solvent (mol. weight ≤200) at 25-500°C and 1 atm-1000 psig for a time sufficient to desorb residual N on the catalyst after the H contact. Thus, in hydrowaxing of a lubricating oil base stock, spent catalysts (containing 1.1% Ni-ZSM 5) were regenerated by passing over H at 900°F and 400 psig, and then contacting with THF at ≤350°C, resulting in effective removal of NH3 from the spent zeolite.

ACCESSION NUMBER: 1987:179597 CAPLUS
 DOCUMENT NUMBER: 106:179597
 TITLE: Process for hydroganative reactivation of spent catalysts
 INVENTOR(S): Degnan, Thomas F., Jr.; Chen, Nai Y.
 PATENT ASSIGNEE(S): Mobil Oil Corp., USA
 SOURCE: U.S., 10 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4649127	A	19870310	US 1985-690065	19850109
PRIORITY APPLN. INFO.:			US 1985-690065	19850109

L28 ANSWER 93 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The title catalysts are regenerated at high temperature in a gas containing O, N compds. in the form of amines and/or N oxides, and, optionally, steam. A spent catalyst containing Pd 6, V 9, and Pb 6 g/L alumina, used to reduce PhNO2 to PhNH2, was regenerated at <450° with a gas mixture containing 12.5 g/h 5% aqueous NH3, 4 L/h air, and 8 L/h N (reduced to 4 L/h during regeneration) until CO2 was not present in the outlet gas. The regenerated catalyst gave 90% PhNO2 conversion with 88% selectivity to PhNH2 initially and 88% PhNO2 conversion with 90% selectivity to PhNH2 after 200 h.

ACCESSION NUMBER: 1987:409324 CAPLUS
 DOCUMENT NUMBER: 107:9324
 TITLE: Regeneration of catalysts for gas-phase reduction of aromatic nitro compounds
 INVENTOR(S): Stammann, Guenter; Kricsfalussy, Zoltan; Waldmann, Helmut; Schneider, Joachim; Medem, Harald
 PATENT ASSIGNEE(S): Bayer A.-G., Fed. Rep. Ger.
 SOURCE: Ger. Offen., 6 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3530820	A1	19870305	DE 1985-3530820	19850829
DE 3530820	C2	19880721		
US 4714689	A	19871222	US 1986-894581	19860807
EP 212602	A1	19870304	EP 1986-111377	19860818
EP 212602	B1	19880921		
R: BE, DE, FR, GB, IT				
JP 62053745	A2	19870309	JP 1986-194108	19860821
BR 8604109	A	19870422	BR 1986-4109	19860828
PRIORITY APPLN. INFO.:			DE 1985-3530820	19850829

L28 ANSWER 95 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A conventional SiO2-supported Ni catalyst had almost double the increased activity in the hydrogenation of fats when the Ni component was prepared from a HCl leachate of a spent Ni catalyst. Thus, a regenerated NiCl2 solution containing 22 g Ni/L was stirred with kieselguhr at 80-100° with gradual feeding of an aqueous Na2CO3 solution to obtain a molar Na/Ni ratio of 2:2.9. The precipitate was filtered, dried, calcined at 350-400° and reduced with H at 430-480°. The catalyst had 1.9 times higher activity than a fresh catalyst.

ACCESSION NUMBER: 1987:23907 CAPLUS
 DOCUMENT NUMBER: 106:23907
 TITLE: Highly active nickel catalysts on carriers
 INVENTOR(S): Kudlacek, Rostislav; Pospisil, Milan; Mucka, William; Cablicar, Josef
 PATENT ASSIGNEE(S): Czech., 5 pp.
 SOURCE: Czech.
 CODEN: CZXXA9
 DOCUMENT TYPE: Patent
 LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 229154	B	19840618	CS 1982-6714	19820920
PRIORITY APPLN. INFO.:			CS 1982-6714	19820920

L28 ANSWER 96 OF 258 CAPIUS COPYRIGHT 2004 ACS on STN
AB A cylindrical container, walled with Nylon cloth and having helicoidally distributed shafts, is adapted to a concrete mixer and rotated. There, regeneration of Alundum balls is done by abrasion with a mixture of water and thick sand and that of Co/Mo or Ni/Mo catalyst rods with gasoline and friction against the Nylon wall. With this process, regeneration losses are 0.3%.

ACCESSION NUMBER: 1986:597842 CAPIUS
DOCUMENT NUMBER: 105:197842
TITLE: Process and apparatus for washing
INVENTOR(S): hydrogeneration catalysts and bed supports
PATENT ASSIGNEE(S): Dos Santos Filho, Agenor Jose; Maia, Orlando Bastos
SOURCE: Petroleo Brasileiro S. A. (PETROBRAS), Brazil
CODEN: BPXXDX
DOCUMENT TYPE: Patent
LANGUAGE: Portuguese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BR 8405200	A	19860520	BR 1984-5200	19841016
PRIORITY APPLN. INFO.:			BR 1984-5200	19841016

L28 ANSWER 97 OF 258 CAPIUS COPYRIGHT 2004 ACS on STN
AB Catalysts for coal liquefaction, hydrogeneration of coal liqs., and hydroforming of petroleum, tar sand bitumen, or shale oils are regenerated by removing metals (e.g., Fe, Ti, Ca, Na, Ni, and V), by converting them to sulfates or oxysulfate compds. using acids (e.g., H2SO4). Suitable treatments for oil-free catalysts are: 5-50 weight%

aqueous H2SO4 at 60-250°F (with or without ≤10 weight% NH4+) or 5-20 weight% dilute aqueous (NH4)2S2O8 at 60-150°F.

ACCESSION NUMBER: 1986:152259 CAPIUS
DOCUMENT NUMBER: 104:152259
TITLE: Regeneration of a catalyst
INVENTOR(S): Van Partha, S. Ganguli
PATENT ASSIGNEE(S): HRI, Inc., USA
SOURCE: Belg., 18 pp.
CODEN: BEXXAL
DOCUMENT TYPE: Patent
LANGUAGE: Dutch
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 902270	A2	19850816	BE 1985-60671	19850425
US 4595666	A	19860617	US 1984-605537	19840430
ZA 8501011	A	19850925	ZA 1985-1011	19850211
DE 3508028	A1	19851031	DE 1985-3508028	19850307
GB 2157968	A1	19851106	GB 1985-6453	19850313
JP 60235645	A2	19851122	JP 1985-81536	19850418
PRIORITY APPLN. INFO.:			US 1984-605537	19840430
			US 1981-317216	19811102

L28 ANSWER 98 OF 258 CAPIUS COPYRIGHT 2004 ACS on STN
AB Attempts were made to regenerate 2 Ni/SiO2 catalysts which had been exposed to S-containing compds. Attempted regeneration was by oxidation

followed by reduction. The amount of S present after these treatments was determined by chemical anal. and XPS. Oxidation and reduction were successful in removing a large part of the S, but catalytic activity for benzene hydrogeneration could not be restored. The small amts. of S which remained after treatment in H were located largely in the bulk rather than at the surface of the Ni particles.

ACCESSION NUMBER: 1986:136681 CAPIUS
DOCUMENT NUMBER: 104:136681
TITLE: X-ray photoelectron spectroscopy of sulfur containing nickel-silicon dioxide catalysts
AUTHOR(S): Montes, M.; Genet, M.; Hodnett, B. K.; Stone, W. E.; Delmon, B.
CORPORATE SOURCE: Groupe Phys.-Chim. Miner. Catal., Univ. Cathol. Louvain, Louvain-la-Neuve, 1348, Belg.
SOURCE: Bulletin des Societes Chimiques Belges (1986), 95(1), 1-12
CODEN: BSCBAG; ISSN: 0037-9646
DOCUMENT TYPE: Journal
LANGUAGE: English

L28 ANSWER 99 OF 258 CAPIUS COPYRIGHT 2004 ACS on STN
AB A method is given to regenerate spent catalysts for hydrotreating processes for heavy hydrocarbon oils when the catalytic activity is reduced as a result of accumulation of heavy metals (e.g., V and Ni) involving immersing the catalysts in alc. at 0-200° for 5-1000 h after removing coke accumulated on them by combustion at 400-600° in an atmospheric of O-containing gas. The catalysts to which the

regeneration method is applied are used in hydrosulfurization, hydrodenitrogenation, hydrodemetalization, and hydrocracking. Thus, a presulfided Co-Mo-Al2O3 catalyst used in hydrosulfurization, containing MoO3 15.0 and CoO 5.0 weight%, was immersed in iso-Pr alc. at 90° for 20 h, or ethylene glycol at 100° for 40 h, to selectively extract V after combustion at 500° for 30 h in air.

ACCESSION NUMBER: 1985:618103 CAPIUS
DOCUMENT NUMBER: 103:218103
TITLE: Regeneration of spent hydrotreating catalysts
INVENTOR(S): Takase, Shinji; Inoue, Akira; Kawakatsu, Ken; Ino, Takashi; Miyajima, Nobuyuki
PATENT ASSIGNEE(S): Nippon Oil Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 13 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 156226	A2	19851002	EP 1985-102733	19850311
EP 156226	A3	19870114		
R: DE, GB, NL				
JP 60190241	A2	19850927	JP 1984-46699	19840312
PRIORITY APPLN. INFO.:			JP 1984-46699	19840312

L28 ANSWER 100 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A kinetic study of the regeneration of a series of AlPO₄, SiO₂, and AlPO₄-SiO₂ supported Ni catalysts poisoned with BUSH was carried out by using 1-hexene hydrogenation as the test reaction.
 ACCESSION NUMBER: 1985:601540 CAPLUS
 DOCUMENT NUMBER: 103:201540
 TITLE: A kinetic study of the regeneration of new aluminum phosphate-supported nickel catalysts
 AUTHOR(S): Campelo, J. M.; Garcia, A.; Luna, D.; Marinas, J. M.
 CORPORATE SOURCE: Fac. Sci., Cordoba Univ., Cordoba, 14005, Spain
 SOURCE: Reaction Kinetics and Catalysis Letters (1985), 28(1), 1-8
 CODEN: RKCLAU; ISSN: 0304-4122
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 101 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The metal-passivation agents for aluminosilicate catalysts contaminated with and deactivated by Ni, V, Fe, Co, and Cu in cracking of distillation residues contain 0.002-1.6 weight% (relative to catalyst) mixture of 8-14:1 (weight ratio) Sb-Sn; the reactivated catalyst is then treated in a reductive atmosphere before use. Carbonaceous deposits on the heavy metal-contaminated catalysts are removed by combustion with a min. amount of O-containing gas before passivation. Thus, equilibrated Al₂O₃-SiO₂-zeolite cracking catalysts treated with Sb was treated in air at 1250°F to remove coke, impregnated with Thermolite 31 (I) [25168-24-5] in a solvent, dried, aged in 10 cycles of heating for 10 min at 1200°F and at 900°F, cooled, and then treated with H₂ at 1250°F before reuse. Gasoline yield in cracking (950°F) of an atm distillation residue with only the removal of carbonaceous deposits, with I without H treatment, and with both I and H treatment were 55.0, 56.9, and 60.5 volume%, resp.
 ACCESSION NUMBER: 1985:424730 CAPLUS
 DOCUMENT NUMBER: 103:24730
 TITLE: Passivation agents for cracking catalysts
 PATENT ASSIGNEE(S): Phillips Petroleum Co., USA
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60071042	A2	19850422	JP 1984-162770	19840801
CA 1223856	A1	19870707	CA 1984-454706	19840518
NO 8403811	A	19850329	NO 1984-3811	19840921
NO 160333	B	19890102		
NO 160333	C	19890412		
EP 141988	A1	19850522	EP 1984-111536	19840927
EP 141988	B1	19880518		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
ES 536300	A1	19860401	ES 1984-536300	19840927
AT 34404	E	19880615	AT 1984-111536	19840927
			US 1983-536820	19830928
PRIORITY APPLN. INFO.:			EP 1984-111536	19840927

L28 ANSWER 102 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Conventional, oil-industry hydrotreating catalysts such as sulfided Ni molybdate on alumina were used to upgrade coal-derived liqs. obtained from a 1 kg/h bench-scale continuous coal hydrogenation unit. Catalyst activity was not seriously affected by contamination with Fe, and when the catalyst was deactivated by C deposition it could be easily regenerated by heating in air. All of the higher boiling, more polar products of coal hydrogenation can readily be converted into lower-mol.-weight, less polar products (oils) by heating with H₂ in a H-donor solvent, especially in the presence of a hydrotreating catalyst.
 These results may be very significant in the design of a coal liquefaction facility in that coal could be dissolved in a vehicle with the aid of an Fe-based catalyst and the resulting product immediately stabilized, mainly as a desirable oil fraction, by passing the material over a hydrotreating catalyst such as supported sulfided Ni molybdate.
 ACCESSION NUMBER: 1985:424683 CAPLUS
 DOCUMENT NUMBER: 103:24683
 TITLE: Regeneration of catalysts for use in continuous flow coal hydrogenation
 AUTHOR(S): Jackson, W. R.; Larkins, F. P.; Herton, P. A.
 CORPORATE SOURCE: Dev. Demonstration Coun., Natl. Energy Res., Canberra, Australia
 SOURCE: Report (1983), NERDDP-EG-83-130, 338 pp. Avail.: Natl. Energy Res., Dev. Demonstr. Coun., Canberra, Aust.
 From: Energy Res. Abstr. 1985, 10(7), Abstr. No. 10847
 DOCUMENT TYPE: Report
 LANGUAGE: English

L28 ANSWER 103 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A spent flue gas denitration catalyst (to reduce NO_x with NH₃) is washed with aqueous salts of 2l of V, Fe, Ni, Mo, Co, Cu, Cr, W, Sn, and U (as active components), preferably after water or dilute acid washing.
 Thus, a spent plate catalyst (used for heavy oil combustion in boiler flue gas) was immersed in 2 vols. aqueous VOSO₄ 49 g/L for 20 min (or after immersing in water for 20 min 3 times) and dried at 180° for 2 h. Gas containing NO_x 200, NH₃ 240, SO₂ 500 ppm, O₂ 3, CO₂ 12, H₂O 121, and balance N₂ was passed over at 15 m/h and 350°. The denitration was 97, 83, and 97 (or 97.54) with the fresh, spent, and regenerated one.
 ACCESSION NUMBER: 1985:410778 CAPLUS
 DOCUMENT NUMBER: 103:10778
 TITLE: Regeneration of spent flue gas denitration catalysts
 PATENT ASSIGNEE(S): Babcock-Hitachi K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKKXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60034743	A2	19850222	JP 1983-143666	19830808
JP 04046621	B4	19920730		
PRIORITY APPLN. INFO.:			JP 1983-143666	19830808

L28 ANSWER 104 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The vapor-phase **hydrogenation** of acetylenic impurities in the presence of other hydrocarbons in an industrial butadiene feedstock was studied in the presence of Ni-Cu, Cu, Ni, and Raney Cu catalysts and various supports. Comparisons of all catalysts showed that activity and selectivity were not related, but Cu-based catalysts gave the highest activity and the highest selectivity. With the exception of Raney Cu, the activity of Cu-based catalysts increased with increasing total surface area. Sintering during **catalyst regeneration** may affect catalyst life.

ACCESSION NUMBER: 1985:7984 CAPLUS
DOCUMENT NUMBER: 102:7984
TITLE: Selection of catalysts for the selective **hydrogenation** of acetylenic impurities in an industrial butadiene stream
Kummerow, I.; Trimm, D. L.; Wainwright, M. S.
AUTHOR(S): Sch. Chem. Eng. Ind. Chem., Univ. New South Wales, Kensington, 2033, Australia
CORPORATE SOURCE: Actas Simp. Iberoam. Catal., 9th (1984), Volume 1, 797-806. Soc. Iberoam. Catal.: Lisbon, Port.
SOURCE: CODEN: 52TUAU
DOCUMENT TYPE: Conference
LANGUAGE: English

L28 ANSWER 105 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Ni catalyst used in **hydrogenation** is treated with chelate resin or its mixture with adsorbent to remove completely impurities, such as Fe, Zn, and Cu, contained in the catalyst. Thus, Ni catalyst used in **hydrogenation** of soybean oil was heated with H2SO4 to give NiSO4 solution. The solution was passed upstream through columns packed with chelate resin (phenol-HCHO resin containing iminodiacetic acid group) and activated C, resp. The effluent was mixed with diatom earth and Na2CO3, then the solid and liquid were separated. Solid (regenerated Ni catalyst) contained no Zn, Cu, P, or S and compared well in catalytic activity with a new Ni catalyst.

ACCESSION NUMBER: 1985:4731 CAPLUS
DOCUMENT NUMBER: 102:4731
TITLE: Regeneration of **nickel** catalyst
PATENT ASSIGNEE(S): Miyoshi Oil and Fat Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59162950	A2	19840913	JP 1983-37978	19830308
JP 04036741	B4	19920617		
PRIORITY APPLN. INFO.:			JP 1983-37978	19830308

L28 ANSWER 106 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The recovery of Ni, Co, or Rh catalysts from C3-10 carboxylic acid mixts. produced by the hydrocarboxylation of olefins consists of distilling off the free acids to leave an acid salt concentrate which is then used for further hydrocarboxylations. Thus, after hydrocarboxylation of ethylene in a Ni salt containing propionic acid solution, the products were removed, the free acid mixture distilled, and fresh propionic acid added to reconstitute the catalyst.

ACCESSION NUMBER: 1984:216461 CAPLUS
DOCUMENT NUMBER: 100:216461
TITLE: Recovery and re-use of **nickel**, cobalt or rhodium from mixtures containing carboxylic acids
INVENTOR(S): Broellos, Klaus; Lindner, Alfred; Irnich, Rudolf; Hohnberger, Paul
PATENT ASSIGNEE(S): BASF A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 11 pp.
CODEN: GWXXEX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3238653	A1	19840419	DE 1982-3238653	19821019
EP 106271	A1	19840425	EP 1983-109954	19831005
EP 106271	B1	19860115		
R: BE, DE, FR, GB, IT, NL				
PRIORITY APPLN. INFO.:			DE 1982-3238653	19821019

L28 ANSWER 107 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The spent catalyst from heavy-hydrocarbon-oil demetalization is regenerated continuously in an integrated fluidized-bed apparatus comprising a reducing tower, a Cl-series chemical treating reactor, and a polar-solvent scrubber. Thus, 500 g/h of a spent zeolite cracking catalyst containing 0.3 weight% Ni and 0.5 weight% V was regenerated in the apparatus by **reduction** at 750°, contact with CCl4 [56-23-5] in the presence of H at 375°, and scrubbing with MeOH [67-56-1].

ACCESSION NUMBER: 1984:194912 CAPLUS
DOCUMENT NUMBER: 100:194912
TITLE: Fluidized-bed apparatus for regeneration of demetalization catalyst
PATENT ASSIGNEE(S): Jushitsuyu Taisaku Gijutsu Kenkyu Kumiai, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 59010347	A2	19840119	JP 1982-116942	19820707
JP 63039290	B4	19880804		
PRIORITY APPLN. INFO.:			JP 1982-116942	19820707

L28 ANSWER 108 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A spent **hydrogenation** catalyst for coal and/or its liquefaction products is washed with a 100: (2-25) mixture of hydrocarbons (containing $\geq 80\%$ aroms.) and PhOH and/or alkylphenols at 100-250° and ≤ 40 kg/cm² gage. Thus, a 2:1 mixture of solvent (**hydrogenated** coal-tar oil distillate b. 2250°) and bituminous coal (~100 mesh) was heated at 430°, the solid material was removed, and the oil was **hydrogenated** with a sulfided Ni-Mo catalyst at 380°, 150 kg/cm² gage, and space velocity 1.0 h-1 for 24 h. The catalyst was washed with a 100:10 mixture of petroleum alkylbenzene solvent containing 96% aroms. (b.p., initial, 10, and 90%; 165°, 170°, 185°, and 191°, resp.) and cresol [1319-77-3] at 200°, 20 kg/cm² gage (H₂), and space velocity 3 h-1 for 1 h. The product consisted of gas 2.1, naphtha (C₅-160°) 6.5, kerosine (160-240°) 10.3, light oil (240-360°) 19.0, and heavy oil ($\geq 360^\circ$) 62.1% (containing S 0.6 and N 1.3%) 2 h before washing; and 1.7, 8.2, 14.6, 22.0, and 53.5 (0.3 and 0.7), resp., 2 h after washing. Without cresol in the washing step, the latter data were 2.1, 6.0, 10.5, 18.5, and 62.9 (0.7 and 1.4) resp.

ACCESSION NUMBER: 1984:142086 CAPLUS
 DOCUMENT NUMBER: 100:142086
 TITLE: Regeneration of spent coal hydroliquefaction catalyst by washing
 PATENT ASSIGNEE(S): Mitsubishi Oil Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58223442	A2	19831226	JP 1982-103710	19820618
JP 03022214	B4	19910326		
PRIORITY APPLN. INFO.:			JP 1982-103710	19820618

L28 ANSWER 110 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Title only translated.
 ACCESSION NUMBER: 1984:51168 CAPLUS
 DOCUMENT NUMBER: 100:51168
 TITLE: Regeneration of Raney-type catalysts
 AUTHOR(S): Butenko, T. R.
 CORPORATE SOURCE: USSR
 SOURCE: Vopr. Kinet. i Kataliza, Ivanovo (1982) 73-5
 From: Ref. Zh., Khim. 1983, Abstr. No. 17N174
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 109 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent Rh tertiary phosphine complex catalysts are **hydrogenated** in organic solvents in the presence of Ni, Pd, Pt, Co, and/or Rh catalysts at 30-150° and ≤ 70 kg/cm² gage. Thus, 100 mL spent HRh(CO)(PPh₃) [17185-29-4] catalyst solution in PhMe (from the hydroformylation of allyl alc.) was stirred with 2 g Raney Ni at 90° and 1 kg/cm² H for 2 h to give a product giving a yield of 99%, compared with 40 without Raney Ni.

ACCESSION NUMBER: 1984:123169 CAPLUS
 DOCUMENT NUMBER: 100:123169
 TITLE: Regeneration of a hydroformylation catalyst
 PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58186443	A2	19831031	JP 1982-69876	19820426
JP 02037213	B4	19900823		
PRIORITY APPLN. INFO.:			JP 1982-69876	19820426

L28 ANSWER 111 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent catalyst (loaded with ≥ 1 of Fe, Co, Ni, Pt-group metals, Cu, Au, and W) is contacted with ≥ 1 of aqueous HCO₂H [64-18-6] and H₂C₂O₄ [144-62-7], and is optionally heated further or mixed with strong acid. Thus, coke-oven gas liquor containing total NH₃ 3000, total N 4000, and Fe + Cu + Mg 1500 (originally 15) ppm was adjusted to pH 10 with aqueous NaOH, fed along with air at space velocities of 1.0 and 65 L/h, 250°, and 75 kg/cm² (gage) into a tower containing 1% Ir/TiO₂ catalyst. The activity index (given as NH₃ removal) was 71 relative to the original 100. The spent catalyst was soaked in 1N HCO₂H at 60° for 2 h and washed with water for 1 h to give a catalyst with an index of 89. When spent 2% Ru/TiO₂ catalyst (index 69) was heated at 90° in 1N HCO₂H, the regenerated catalyst had an index of 98.

ACCESSION NUMBER: 1984:24327 CAPLUS
 DOCUMENT NUMBER: 100:24327
 TITLE: Regeneration of wet oxidation catalysts for coke oven gas liquor
 PATENT ASSIGNEE(S): Osaka Gas Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58114733	A2	19830708	JP 1981-215854	19811228
JP 04045214	B4	19920724		
PRIORITY APPLN. INFO.:			JP 1981-215854	19811228

L28 ANSWER 112 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent oxidation catalyst (loaded with 21 of Fe, Co, Ni, Pt-group metals, Cu, Au, and W) is contacted with 21 of dilute inorg. and organic acids and then with 21 aqueous reductants or with gas containing 21 of H or CO. The reductants include N2H4.H2O, HCHO [50-00-0], NaBH4, LiAlH4, Na tartrate [868-18-8], glucose [50-99-7], HCO2K, and HCO2Na. Thus, coke-oven gas liquor containing total NH3 3000, total N 4000, and Fe + Ca + Mg 1500 (originally 15) ppm was adjusted to pH 10 with aqueous NaOH, fed along with air at space velocities of 1.0 and 65 L/h, 250°, and 75 kg/cm2 (gage) into a tower containing 18 Ir/TiO2 catalyst. The activity index (given as NH3 removal) was 71 relative to the original 100. The spent catalyst was soaked in 1N H3PO4 at 80° for 1 h, washed with water for 1 h, soaked in 18 N2H4.H2O at 60° for 1.5 h, and washed to give a catalyst with an index of 94.

ACCESSION NUMBER: 1984:24326 CAPLUS
 DOCUMENT NUMBER: 100:24326
 TITLE: Regeneration of wet oxidation catalysts for coke oven gas liquor
 PATENT ASSIGNEE(S): Osaka Gas Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58114731	A2	19830708	JP 1981-212949	19811229
JP 03066018	B4	19911015		

PRIORITY APPLN. INFO.: JP 1981-212949 19811229

L28 ANSWER 113 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The HCl wastewater containing 5600 g/L NiCl2 and MnCl2 from inorg. synthesis processes with Ni-Mn catalysts were treated for the regeneration of HCl, Ni, and Mn. NiCl2 and MnCl2 were salted-out from the wastewater by saturation with gaseous HCl, the chlorides were hydrolyzed in an air-steam at 600° to Mn2O3 and NiO, and the oxides were reduced at 1300-1400° with graphite to a Ni-Mn alloy, which was remelted in an induction furnace and reused as a catalyst.

ACCESSION NUMBER: 1984:10439 CAPLUS
 DOCUMENT NUMBER: 100:10439
 TITLE: Treatment of highly concentrated hydrochloric acid wastewaters containing nickel and manganese
 AUTHOR(S): Mil'ner, A. A.; Putivl'skii, V. V.; Zapol'skii, A. K.
 CORPORATE SOURCE: Inst. Kolloidn. Khim. Khim. Vody, Kiev, USSR
 SOURCE: Khimiya i Tekhnologiya Vody (1983), 5(4), 343-7
 CODEN: KTVODL; ISSN: 0204-3556
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 114 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A process is disclosed for decreasing the amount of coke deposited on catalysts in the cracking of hydrocarbon feedstocks containing 22 of Ni, V, and Fe. At least a portion of the catalyst is passed from the reaction zone through a regeneration zone operated under net reducing conditions and through a reduction zone maintained at 2600° to at least partially passivate the metal contaminants on the catalyst. The reducing environment in the reduction zone is maintained by addition of H, CO, or their mixts. The passivated catalyst is then passed to the reaction zone without further processing. Exptl. data are presented showing the application of the process in the cracking of a light catalytic cycle oil on a com. catalyst containing SiO2, Al2O3, and a zeolite. The catalyst had been contaminated with the metals by laboratory impregnation followed by calcination in air.

ACCESSION NUMBER: 1984:9790 CAPLUS
 DOCUMENT NUMBER: 100:9790
 TITLE: Reducing coke formation in heavy feed catalytic cracking
 INVENTOR(S): Bearden, Roby, Jr.; Stuntz, Gordon
 PATENT ASSIGNEE(S): Exxon Research and Engineering Co., USA
 SOURCE: U.S., 12 pp. Cont.-in-part of U.S. 4,372,841.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 7
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4409093	A	19831011	US 1981-285737	19810722
US 4280895	A	19810728	US 1979-108395	19791231
US 4372841	A	19830208	US 1981-260191	19810504
EP 70681	A2	19830126	EP 1982-303694	19820714
EP 70681	A3	19830330		
EP 70681	B1	19850918		
R: BE, DE, FR, GB, IT, NL				
CA 1190170	A1	19850709	CA 1982-407490	19820716
JP 58037087	A2	19830304	JP 1982-125932	19820721

PRIORITY APPLN. INFO.: US 1979-108395 19791231
 US 1981-260191 19810504
 US 1981-285737 19810722

L28 ANSWER 115 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent denitration catalyst (for reduction of NOx with NH3) containing V2O5 and TiO2 (optionally 21 of W, Mo, Fe, Cu, Cr, Ni, Co, and Ce oxides) is washed with water or aqueous inorg. acid, soaked in aqueous tungstate, and calcined at 400-650° for regeneration. Thus, a honeycomb of V2O5 3.0% and balance TiO2 was used for boiler flue gas 1000 m3/h containing NOx 200 and SOx 800 ppm and mixed with 200 ppm NH3 at 300-400° and space velocity 6500 h-1. The denitration was 95.5 at 1st and 97.0% after 12,000 h and SO2 oxidation 2.1 and 4.8%, resp. The spent catalyst was washed with water with supersonic wave application for 1 h, loaded with WO3 1 kg/m3, and calcined at 550° for 3 h. After regeneration of the catalyst, denitration was 96.0 and SO2 oxidation was 1.8%.

ACCESSION NUMBER: 1983:131635 CAPLUS
 DOCUMENT NUMBER: 98:131635
 TITLE: Regeneration of denitration catalyst
 PATENT ASSIGNEE(S): NGK Insulators, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 58000247	A2	19830105	JP 1981-98361	19810626
JP 62048537	B4	19871014		

PRIORITY APPLN. INFO.: JP 1981-98361 19810626

L28 ANSWER 116 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent laterite catalyst fixed with coke and FeS is **reduced**
 -roasted, the waste gas is mixed with H₂, contacted with a catalyst at
 200-400° to reduce SO₂ partially into H₂S (mixed with H₂S if
 necessary) to give a H₂S:SO₂ mol ratio 2:1, and contacted with a catalyst
 at 200-350° to obtain S. Thus, pellets were prepared from laterite
 containing Fe 55.1, Ni 1.26, MgO 2.6, SiO₂ 4.7, and Al₂O₃ 2.81% with
 a diameter of 0.2 mm, calcined to have sp. surface area 3.2 m²/g, and the
 catalyst (A) 20 kg/h was circulated between a 12.7 diameter x 160 cm
 stainless steel decomposition tower (X) and a 15.1 diameter x 180 cm
 regeneration tower (Y). Low-pressure residual oil (B) 40 and steam 2.0
 kg/h were fed into tower X at 540° and 1 kg/cm² gage holding 13 kg
 catalyst A, and oil B 0.06 kg and air 5 m³/h into tower Y at 850°
 holding 20 kg catalyst A. Spent catalyst A containing 4.7% S 1 kg/h was
 removed from tower Y, 6 kg/h was heated at 750° in an air stream at
 2.1 m³/h, and 1 kg/h containing 1.5% S was returned to tower Y. The
 waste gas
 1.95 m³/h containing SO₂ 7.4, O₂ 0.3, CO₂ 5.38 and H₂ 0.05 volume% was
 mixed
 with 1.5 m³/h gas containing 35 volume% H₂, contacted with a 1.7 L 4 mm
 diameter
 Co-Mo catalyst column at 330°, then with a 3 L 5 mm diameter Al₂O₃
 catalyst column at 160°, and cooled. The S yield was 0.25 kg/h and
 the final gas contained 6100 volume ppm SO₂.
 ACCESSION NUMBER: 1983:56527 CAPLUS
 DOCUMENT NUMBER: 98:56527
 TITLE: Recovery of sulfur in **reduction-roasting**
 waste gases of spent laterite catalyst for heavy oil
hydrogenation-decomposition
 Jushitsuyu Taisaku Gijutsu Kenkyu Kumiai, Japan
 PATENT ASSIGNEE(S): Jpn. Kokai Tokkyo Koho, 7 pp.
 SOURCE: CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 57135702	A2	19820821	JP 1981-20709	19810213
JP 01043681	B4	19890922		

PRIORITY APPLN. INFO.: JP 1981-20709 19810213

L28 ANSWER 117 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A method is described for regenerating the activity of deactivated
 supported Ni catalysts that have lost activity after use as a
hydrogenation catalyst in the finishing stage of the process of
 conversion of butynediol to butanediol. The method comprises contacting
 deactivated catalyst with H at 200-500° to convert surface polymers
 to gaseous compds. and removing these gaseous compds. from the vicinity
 of
 the treated catalyst. In the preferred form of the invention, in a
 single
 step, a slow stream of H is passed through the deactivated catalyst in
 situ as a fixed bed and the gaseous compds. are removed simultaneously in
 the H stream.
 ACCESSION NUMBER: 1983:4292 CAPLUS
 DOCUMENT NUMBER: 98:4292
 TITLE: Regeneration of supported **nickel** catalysts
 INVENTOR(S): Hort, Eugene V.; Dethomas, Waldo
 PATENT ASSIGNEE(S): GAF Corp., USA
 SOURCE: Eur. Pat. Appl., 15 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 61042	A1	19820929	EP 1982-101750	19820305
R: DE, GB				
US 4361495	A	19821130	US 1981-243315	19810313
JP 57167735	A2	19821015	JP 1982-38232	19820312
			US 1981-243315	19810313

PRIORITY APPLN. INFO.:

L28 ANSWER 118 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent HRI 3830 (Co-Mn) catalyst from the H-Coal process was regenerated
 by
 removing C and metal compds. Tests showed that the various activities of
 the regenerated catalyst were either superior or equivalent to those of
 the
 fresh catalyst. Spent Co-Mo and Ni-Mo catalysts from H-Oil
 process employing heavy petroleum residue were regenerated by the same
 procedures. Useful V and Ni compds. could be reclaimed by an
 addnl. chemical treatment step. Optimization and engineering anal. of
 the
 regeneration process for com. practice are underway.
 ACCESSION NUMBER: 1982:547372 CAPLUS
 DOCUMENT NUMBER: 97:147372
 TITLE: Regeneration of spent catalysts from coal
 liquefaction
 and petroleum residua processing operations
 AUTHOR(S): Ganguli, Partha
 CORPORATE SOURCE: Hydrocarbon Res., Inc., Lawrenceville, NJ, 08648, USA
 SOURCE: Proceedings of the Intersociety Energy Conversion
 Engineering Conference (1982), 17th(Vol. 2), 825-30
 CODEN: PIECDE; ISSN: 0146-955X
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 119 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The Br number of diisoamyl ether (I) [544-01-4], reflecting the content
 of
 unsatd. compds. undesirable for subsequent use of I in the preparation of
 polymerization catalysts, was decreased from 14 to 0.5 g/100 mL I by
hydrogenation in 3 successive apparatus containing Ni-Cr catalyst
 at space velocity of I 2 h-l and H₂ 1500 h-l, 200° and pressure
 1.2-1.5 MPa. The activation of the catalyst was carried out with H₂ at
 200° and space velocity 40-50 h-l for 2-4 h, followed by treatment
 with H₂ for 4 h under the same conditions. The procedure of
catalyst regeneration was similar to that of activation
 but continued for shorter time.
 ACCESSION NUMBER: 1982:546537 CAPLUS
 DOCUMENT NUMBER: 97:146537
 TITLE: Removal of unsaturated compounds from diisoamyl ether
 AUTHOR(S): Timofeev, A. V.; Romanchenko, L. Ya.; Shumovskii, V.
 G.; Vol'f, Yu. I.; Zhukov, V. I.; Shestak, N. P.;
 Min'ko, T. G.; Koval'skaya, E. V.
 CORPORATE SOURCE: USSR
 SOURCE: Khimicheskaya Promyshlennost' (Moscow, Russian
 Federation) (1982), (7), 401-2
 CODEN: KPRMAW; ISSN: 0023-110X
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 120 OF 258 CAPIUS COPYRIGHT 2004 ACS on STN
AB A steam-reforming catalyst is reconditioned by H reduction followed by contact with a 1.0-1.5:1 mixture of steam and C1-4 hydrocarbons at 650-950° with space velocity 15-800 L/h. When the volume ratio of the product gas and CH4, C2H6, C3H8, or C4H10 (i.e., the feed stream) is 23.2:1, 5.6:1, 8.0:1, or 10.4:1, resp., the catalyst is ready for further use. Thus, 0.6 L catalyst (14 mm diameter) containing 13% Ni after 8000 h on stream was heated at 850° in 650 L flowing H for 30 min before a 1:1.3 steam-C3H8 mixture was passed over at 750° with space velocity 200 h-1. When the product gas-C3H8 volume ratio was 8.8:1, the catalyst had 91% of its initial activity and was used for an addnl. 4000 h.

ACCESSION NUMBER: 1982:426236 CAPIUS
DOCUMENT NUMBER: 97:26236
TITLE: Estimation of activity of steam-reforming catalysts for hydrocarbons
Osaka Gas Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 57042337	AZ	19820309	JP 1980-118824	19800827
JP 60021773	B4	19850529	JP 1980-118824	19800827

PRIORITY APPLN. INFO.: JP 1980-118824 19800827

L28 ANSWER 121 OF 258 CAPIUS COPYRIGHT 2004 ACS on STN
AB A nonoxidative regeneration of hydrocracking catalysts consists of hydrostripping of the deposited coke by passage of H and petroleum middle distillate over the catalysts. This process also gives a hydrorefined middle distillate. Thus, a spent catalyst (NiO-MoO3/Al2O3-SiO2 containing 14.5 weight% C after hydrocracking of vacuum distillate) was hydrostripped of coke by treatment with middle distillate and H at 673 K and 24.0 MPa, to yield an essentially N- and S-free product and a catalyst containing 5.5 weight% C (vs. 4.0 weight% C on fresh catalyst). The regenerated catalyst had a hydrocracking activity comparable to that of fresh catalyst.

ACCESSION NUMBER: 1982:126091 CAPIUS
DOCUMENT NUMBER: 96:126091
TITLE: Reactivation or utilization of spent hydrocracking catalysts
Buerkner, Helmut; Mueller, Jochen; Pfeiffer, Fritz; Pietz, Gerd; Printz, Dietmar; Rentzsch, Gabriele; Richter, Fritz; Schneider, Wolfgang; Spindler, Herbert; et al.
SOURCE: VEB Leuna-Werke "Walter Ulbricht", Ger. Dem. Rep. Ger. (East), 9 pp.
CODEN: GEXXA8
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 151764	Z	19811104	DD 1980-222105	19800624

PRIORITY APPLN. INFO.: DD 1980-222105 19800624

L28 ANSWER 122 OF 258 CAPIUS COPYRIGHT 2004 ACS on STN
AB A process is described for fluid catalytic cracking of residuum and other heavy oils, gas oil, petroleum residue, reduced and whole crudes, and shale oils with high metals content. The coke deposits on the used cracking catalyst are reduced in amount by regeneration and the contaminant metals e.g., Ni, V, Cu, and Fe are deactivated in sufficient amount to reduce H and coke formation during cracking. Thus, the catalyst particles are contacted with fresh feed and associated recycle feed, and wherein the feed is cracked in a cracking zone. The used catalyst particles are subjected to alternate exposures of ≤30 mins in duration of conditions comprising an oxidizing zone at >900°F wherein O2 in flue gas emitted from the oxidizing zone is >0.1 volume%, and a reducing zone at 900-1450°F, wherein the reducing atmosphere is a material selected from the group, consisting of H, hydrocarbons, CO, and mixts. thereof and is present in a concentration of 4-100 volume%. The regenerated catalyst can be returned to the cracking zone.

ACCESSION NUMBER: 1982:22288 CAPIUS
DOCUMENT NUMBER: 96:22288
TITLE: Fluid catalytic cracking of heavy petroleum fractions
INVENTOR(S): Tatterson, David F.; Ford, William D.
PATENT ASSIGNEE(S): Standard Oil Co., USA
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4298459	A	19811103	US 1979-91455	19791105

PRIORITY APPLN. INFO.: US 1979-91455 19791105

L28 ANSWER 123 OF 258 CAPIUS COPYRIGHT 2004 ACS on STN
AB Requisite conditions and a flow sheet are given for the combustion of C deposits in tubular reactors which inactivate Cu- and Ni-based catalysts. The reactor is flushed with a gas at 280-400°, containing gradually increasing O concns. from 0.5 to 5%, first at a rate of 0.2-2 m/s outside the pipes and then into the pipes charged with catalyst. This arrangement increases the heat transfer to the reactor sleeve and prevents pipe cracking owing to excessive temperature difference. Thus, in the treatment of 3 m3 of spent Cu catalyst after reduction of PhNO2 by H with 3,000 m3/h gas containing 489 m3/h steam for 50 h, the C content in the catalyst dropped from 17% to 3% on the average and Cu was oxidized to CuO. Reduction by H at 180-220° was necessary before the next use.

ACCESSION NUMBER: 1982:21909 CAPIUS
DOCUMENT NUMBER: 96:21909
TITLE: Regeneration of catalysts
INVENTOR(S): Pasek, Josef; Pexidr, Vaclav; Dvorak, Bohumir; Ruzicka, Vlastimil; Kocarek, Petr
PATENT ASSIGNEE(S): Czech.
SOURCE: Czech., 4 pp.
CODEN: CZXXA9
DOCUMENT TYPE: Patent
LANGUAGE: Czech
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 188729	B	19790330	CS 1977-3402	19770524

PRIORITY APPLN. INFO.: CS 1977-3402 19770524

L28 ANSWER 124 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A spent catalyst is **hydrogenated** in a mineral oil or its **hydrogenation** product under H at lower temperature and higher pressure than the **hydrogenation**, sometimes in the presence of another catalyst. Thus, Al2O3 loaded with 15% MoO3 and 3.5% CoO was ball-milled, mixed with kerosine, vacuum-dried at 80-90°, and used for **hydrogenation** of heavy oil containing S 5.18, heptane-insol. asphaltenes 11.5, and Conradson C 15.98, 1130 ppm V, and 106 ppm Ni at 50 kg/cm2 (H) and 430°. The spent catalyst was mixed with a 10-fold amount of light oil containing 3.0% S and 1.5-mm (diameter) catalyst (Al2O3 loaded with 14.1% MoO3 and 7.3% NiO) at 160 kg/cm2 (H) and 410° for 3 h, separated from the latter, filtered, washed with PhMe, and used again. The catalyst contained Al 12.9, C 61.4, H 4.45, S 4.19, and used again. The catalyst contained Al 12.9, C 61.4, H 4.45, S 4.19, and used again.

V 1.30, and Ni 0.10% before treatment, and 26.7, 29.4, 2.49, 5.61, 2.49, and 0.27%, resp., of these components after treatment. To recover

V and Ni, the catalyst was suspended in a 20-fold amount of H2O and injected with Cl at 30° for 1 h to contain 27.6, 31.0, -, 3.97, 0.95, and 0.12%, resp., of the above components.

ACCESSION NUMBER: 1981:535657 CAPLUS
 DOCUMENT NUMBER: 95:135657
 TITLE: Removal of precipitated carbon over **hydrogenation** catalyst for heavy oil
 PATENT ASSIGNEE(S): Chiyoda Chemical Engineering and Construction Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 56070840	A2	19810613	JP 1979-145498	19791112
JP 63045860	B4	19880912		
PRIORITY APPLN. INFO.:			JP 1979-145498	19791112

L28 ANSWER 125 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB NOx is removed from flue gases by **reduction** with NH3 over a regenerated hydrosulfurization catalyst. This catalyst is obtained from petroleum or coal processing plants and is regenerated by oxidation in the presence of O to burn off the coke coated on the catalyst and to convert metal sulfides to oxides. Thus, NOx was 100% removed from a flue gas-NH3 mixture (containing NO 195, NO2 5, NH3 250, and SO2 1000-60 ppm, and 5 volunet O) at 300-400° using a regenerated V-Ni-Co-Mo/γ-Al2O3 catalyst.

ACCESSION NUMBER: 1981:467209 CAPLUS
 DOCUMENT NUMBER: 95:67209
 TITLE: Removal of nitrogen oxides from flue gases
 PATENT ASSIGNEE(S): Nagao Soda Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55167025	A2	19801226	JP 1979-74597	19790615
JP 61008733	B4	19860317		
PRIORITY APPLN. INFO.:			JP 1979-74597	19790615

L28 ANSWER 126 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The catalyst is finely dispersed Ni deposited upon clay. During the **reduction** of nitrobenzene, the catalyst continually loses activity due to the formation of organic resinous products on the surface, blocking the active centers. The regeneration is accomplished by oxidation at 400-550° for 3 h, and H2 **reduction** of the oxide at 350-400° for 3 h.

ACCESSION NUMBER: 1981:413447 CAPLUS
 DOCUMENT NUMBER: 95:13447
 TITLE: Study of the regeneration of **nickel** catalysts used in aniline production
 AUTHOR(S): Gramatikov, K.; Rotseva, S.
 CORPORATE SOURCE: Inst. Malotonazhn. Khim. Proizvod., Dimitrovgrad, Bulg.
 SOURCE: Khimiya i Industriya (1922-1988) (1981), (2), 54-6
 CODEN: KINSAP; ISSN: 0368-5764
 DOCUMENT TYPE: Journal
 LANGUAGE: Bulgarian

L28 ANSWER 127 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The spent catalyst, containing TiO2 250% and 21 of Fe, Mo, V, W, Ni, Cr, Cu, Mn, Co, Bi, and Sn oxides is heated in H2SO4 and hydrolyzed and (or) neutralized and regenerated. Thus, 300 g spent granular catalyst containing TiO2 75, Fe2O3 15, and V2O5 7% (used for flue gas denitration) was boiled in 300 mL 45% H2SO4 for 3 h, cooled to 70°, and neutralized to pH 7 with aqueous NH3; the precipitate was filtered, washed, dried, mixed with a small amount of binder, pelletized to 10 diameter + 7 mm, and calcined at 500° for 2 h. The regenerated catalyst containing TiO2 74.6, Fe2O3 15.2, and V2O5 6.9% had compressive strength 12 kg and gave NO removals of 82 or 91% at 250° or 300°, resp., when crushed to 10-20 mesh and used for gas containing 300 ppm NO, 500 ppm SO2, and O 4, CO2 13, and water 15% balance N after mixing with NH3 at space velocity 10,000 h-1. The data for the fresh catalyst had 81 and 91% removal efficiencies, resp.

ACCESSION NUMBER: 1981:412043 CAPLUS
 DOCUMENT NUMBER: 95:12043
 TITLE: Treatment of spent titania-support flue gas denitration catalyst
 PATENT ASSIGNEE(S): Ishihara Sangyo Kaisha, Ltd., Japan; Babcock-Hitachi K. K.
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55145532	A2	19801113	JP 1979-52379	19790427
JP 58029143	B4	19830621		
PRIORITY APPLN. INFO.:			JP 1979-52379	19790427

L28 ANSWER 128 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Reaction products were extracted from spent catalysts by use of gases in the supercrit. state as extraction agents. The supercrit. gas was then removed from the extraction reaction products products by expansion to a gaseous state and then recompressed for further use. The method is particularly applicable for treatment of used Ni and Cu (or Cu chromite) catalysts for hydrogenation of fats. The preferred supercrit gas was CO2.
ACCESSION NUMBER: 1980:502079 CAPLUS
DOCUMENT NUMBER: 93:102079
TITLE: Extraction of reaction products from spent catalysts
INVENTOR(S): Abel, Heinz
PATENT ASSIGNEE(S): VARTA Batterie A.-G., Fed. Rep. Ger.
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2853065	A1	19800619	DE 1978-2853065	19781208

PRIORITY APPLN. INFO.: DE 1978-2853065 19781208

L28 ANSWER 129 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The spent catalyst (for γ -butyrolactone (I) and/or THF production from maleic anhydride (II) and/or its partial hydrogenation products) is heated at 200-900° in a H stream. Thus, the spent catalyst of ratios SiO2-Al2O3/Ni 2(weight), Re/Ni 0.03, and Mo/Ni 0.07(atomic) was centrifuged, a 40 g portion of several mm diameter as a 50 mm high column in a 30 mm diameter vertical quartz tube was heated to and at 650° within and for 1 h each in a downward H stream at superficial velocity 1.4 cm/s, cooled, and reserved in N. When the catalyst 1.5 and a 1:4 mixture 150 g of I and II in an autoclave with an electromagnetic stirrer was pressured at 240° with H at 50 kg/cm2 gage pressure and 150 L/h under reflux at 5° for 3 days, and THF was condensed, the activity was 71.5 and selectivity 89 mol %, vs. 100(standard) and 86 with the fresh one, or 41.0 and 81 with the spent one.
ACCESSION NUMBER: 1980:170024 CAPLUS
DOCUMENT NUMBER: 92:170024
TITLE: Regeneration of nickel-base hydrogenation catalyst
INVENTOR(S): Takeshita, Soichi; Ayuzawa, Tadashi
PATENT ASSIGNEE(S): Mitsubishi Petrochemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55001832	A2	19800109	JP 1978-73908	19780619

PRIORITY APPLN. INFO.: JP 1978-73908 19780619

L28 ANSWER 130 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB An used cracking catalyst containing a zeolite and heavy metals is impregnated with 0.1-1.5% B to increase its activity in the cracking of hydrocarbon oils. Thus, 50g used catalyst containing a zeolite and 0.13% Ni, 0.11% V, and 0.66% Fe was impregnated with 15 mL of an aqueous solution containing 5.44 g triamyl borate [621-78-3], dried (482°, N), and calcined (482°, air) to give a regenerated catalyst containing 0.43% B. When the B-containing catalyst was used in the cracking (480°) of a gas oil, the gasoline yield was 55% (based on the gas oil) and the coke yield was 5%, vs. 51.2 and 8.6%, resp. when using the B-free used catalyst.
ACCESSION NUMBER: 1980:61576 CAPLUS
DOCUMENT NUMBER: 92:61576
TITLE: Catalyst for cracking of hydrocarbon oils
PATENT ASSIGNEE(S): Shell Internationale Research Maatschappij B. V., Neth.
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54122692	A2	19790922	JP 1979-17359	19790219
JP 54122692	B4	19871121		
FR 2417540	A1	19790914	FR 1978-4719	19780220
FR 2417540	B1	19810904		
CA 1132122	A1	19820921	CA 1979-320417	19790129
IN 151186	A	19830305	IN 1979-DE63	19790129
BE 874053	A2	19790809	BE 1979-9271	19790209
ES 477845	A1	19790801	ES 1979-477845	19790219
NL 7901288	A	19790822	NL 1979-1288	19790219
AU 7944363	A1	19790830	AU 1979-44363	19790219
AU 532790	B2	19831013		
GB 2014468	A	19790830	GB 1979-5706	19790219
GB 2014468	B2	19820825		
BR 7901042	A	19791002	BR 1979-1042	19790219
ZA 7900748	A	19800227	ZA 1979-748	19790219

PRIORITY APPLN. INFO.: FR 1978-4719 19780220

L28 ANSWER 131 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The deteriorated granular catalyst is regenerated by washing with C2-12 olefin and/or paraffin (containing no aromatic hydrocarbon) at -30° to +170° and 0-100 kg/cm2 gauge. The catalysts are SiO2-, Al2O3-, MgO-, ZrO2-, TiO2- or zeolite-supported Co, Mo, Ni, Cr, and Pd, and are used for gas-phase polymerization, hydrogenation, thermal decomposition, dehydrogenation, dealkylation, disproportionation, and isomerization of hydrocarbons, especially for hydrogenation of acetylenes and/or C2-18 diolefins in olefins and/or paraffins, and in removal of S and/or N compds. in C7-18 kerosine. Thus, Al2O3-supported Pd was used for hydrogenation of C2H2 in C2H4 prepared by naphtha decomposition. The hydrogenation of C2H4 containing 1200 ppm C2H2 over the Pd catalyst lowered the C2H2 content to <1 ppm at 1st, and to 5-50 ppm after 4-6 mo. The catalyst column was flushed with propylene at 17 kg/cm2 and 30° for 24 h, separated, the process repeated twice more, and the catalyst used again for hydrogenation of C2H2 to <1 ppm.
ACCESSION NUMBER: 1980:22019 CAPLUS
DOCUMENT NUMBER: 92:22019
TITLE: Regeneration of hydrogenation catalyst
INVENTOR(S): Sato, Susumu; Nakamura, Tatsuo; Kuroki, Iwao
PATENT ASSIGNEE(S): Nippon Petrochemicals Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54087693	A2	19790712	JP 1977-155398	19771223

PRIORITY APPLN. INFO.: JP 1977-155398 19771223

L28 ANSWER 132 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Deteriorated catalyst due to precipitation of V is contacted with Cl or its mixture with S2Cl2 at 5350° to volatilize as VCl4, and then with steam at 100-1000° to dechlorinate and/or with O at 400-800° to oxidize (or with gas containing steam and O at 100-1000° to dechlorinate and oxidize). The catalyst for hydrogenation-purification of heavy oil is regenerated. Thus, the deteriorated catalyst containing V 6.3, Ni 2.2, Mo 6.4, Co 2.5, C 6.4, and S 9.1% 50 was mixed with sea sand 150 mL, filled in a glass tube, treated with Cl 600-700 mL/min at 150° for 15 min to remove all V and trace Mo, heated to 400° in a He stream, treated with steam 50 mL(as H2O)/h for 1 h, heated to 550°, and treated with air 500-600 mL/min for 3 h. The crushing strength was 2.2 kg, sp. surface area 235 m2/g, and pore volume 0.41 mL/g, vs. 2.0, 281, and 0.49 with fresh catalyst. When residual oil containing S 2.62, asphaltene 3.0%, and V 130 ppm was passed over the regenerated catalyst at 100 kg/cm2, 400°, and space velocity 1.0 h-1, the product after 100 h contained S 0.21% and V 41 ppm, vs. 0.20 and 39 with fresh catalyst.

ACCESSION NUMBER: 1979:617584 CAPLUS
 DOCUMENT NUMBER: 91:217584
 TITLE: Regeneration of catalyst coated with vanadium
 INVENTOR(S): Ioka, Masatada; Shimizu, Toshiharu
 PATENT ASSIGNEE(S): Chiyoda Chemical Engineering and Construction Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54099790	A2	19790806	JP 1978-6151	19780125
JP 57052863	B4	19821110		

PRIORITY APPLN. INFO.: JP 1978-6151 19780125

L28 ANSWER 134 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Ash-containing coal is liquefied by catalytic hydrogenation at 700-825°F and >3500 psi in the presence of an aromatic solvent, and the life of the catalyst (e.g., Co-Mo-Ni/Al2O3) is extended by removing it periodically for the separation of ash-containing particulate matter. The process includes a heating zone (750-90°F) and a dissoln. zone (800-900°F) in advance of the hydrogenation zone. Deactivation of the catalyst occurs when undissolved coal and ash are deposited on the surface of the catalyst. To reverse this deactivation, the catalyst is washed in place by an aromatic liquid, dried, removed from the reactor, crumbled, and sifted on a wire mesh screen. The material passing through the screen is discarded, and the purified catalyst particles are returned to the reactor.

ACCESSION NUMBER: 1979:560236 CAPLUS
 DOCUMENT NUMBER: 91:160236
 TITLE: Extending life of coal liquefaction catalyst
 INVENTOR(S): Paraskos, John A.; Taylor, Herman, Jr.
 PATENT ASSIGNEE(S): Gulf Research and Development Co., USA
 SOURCE: U.S., 9 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4157281	A	19790605	US 1978-878019	19780215
AU 7725922	A1	19781214	AU 1977-25922	19770608
GB 1584583	A	19810211	GB 1977-24922	19770615
ZA 7703679	A	19780530	ZA 1977-3679	19770620
JP 53077203	A2	19780708	JP 1977-142872	19771130

PRIORITY APPLN. INFO.: US 1976-746179 19761130

L28 ANSWER 133 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB By use of the modified computer programs of S. Gordon and B. J. McBride (1971) for the determination of heterogeneous phase and chemical equilibrium at preassigned temps. (300-1100 K) and atmospheric pressure (101,325 N m-2), the oxidation with O of S-poisoned Raney Ni catalyst and subsequent reduction with H are modeled thermodyn. by using the properties of bulk Ni compds. An alternate process, the direct reduction with H of the sulfidized Ni, is also modeled and arguments are advanced for the further investigation of this thermodynamically favored 2nd process. In both processes the mole ratios of reactants, H/NiSO4 and H/Ni3S2, resp., for complete disappearance of the last product to be reduced, Ni3S2, increase markedly as the desired temperature for complete thermodyn. reduction decreases. These ratios and the equilibrium activity quotient PH2/PHT2 are given as quant. functions of this critical redn. temperature. A complete thermodyn. hierarchy of oxidation processes for the reaction of O with mixts. of Ni and Ni3S2 is developed. From the equilibrium calcns., Ni3S2 is relatively more stable both to oxidation with O than is Ni and to reduction with H than is NiO. One point of modest connection with experiment is presented for the reduction processes.

ACCESSION NUMBER: 1979:582003 CAPLUS
 DOCUMENT NUMBER: 91:182003
 TITLE: Thermodynamic model for the regeneration of sulfur-poisoned nickel catalyst. 1. Using thermodynamic properties of bulk nickel compounds only
 AUTHOR(S): Chughtai, A. R.; Riter, J. R., Jr.
 CORPORATE SOURCE: Chem. Dep., Univ. Denver, Denver, CO, 80208, USA
 SOURCE: Journal of Physical Chemistry (1979), 83(21), 2771-3
 CODEN: JPCHAX; ISSN: 0022-3654
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 135 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent Ni catalyst from an oil hydrogenation plant was regenerated by converting the Ni content of slurry into NiO and Ni(OH)2, and subsequently reducing these compds. by H at 450 and 290°, resp. Lab and plant apparatus for reduction are designed. Activity of regenerated catalyst was measured in comparison with reference catalyst (G15). Pretreatment of discarded catalyst prior to redn. is described.

ACCESSION NUMBER: 1979:454808 CAPLUS
 DOCUMENT NUMBER: 91:54808
 TITLE: Regeneration of used nickel catalyst
 AUTHOR(S): Massoumi, A.; Kajbaf, M. A.
 CORPORATE SOURCE: Dep. Chem., Shiraz Univ., Shiraz, Iran
 SOURCE: Journal of the American Oil Chemists' Society (1979), 56(5), 565-8
 CODEN: JAOCA7; ISSN: 0003-021X
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 136 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Spent catalyst, SOx-resistant support carrying metal oxide to reduce NOx with NH3, is contacted with gas containing NO at $\geq 200^\circ$. The catalyst is of TiO2 or SiO2 support and metal oxide: Cu, Fe, Co, Ni, Cr, Mn, or V oxide. Thus, TiO2 support carrying V2O5 used for gas containing NOx 110-70, SO2 110-50, SO3 1-3 ppm, O 0.6-2.5, CO2 13, H2O 12%, and dust 5-10 mg/m3 from a boiler and deteriorated from 91 to 71% NOx removal (S content 0.3 to 1.2%) was heated in a gas stream containing NO 200 or 320, SO2 165 ppm, O 4, CO2 12, and H2O 10% at 270° and space velocity 10,000 h-1 for 2.3 or 1.4 h to recover the activity 100%.

ACCESSION NUMBER: 1979:210813 CAPLUS
 DOCUMENT NUMBER: 90:210813
 TITLE: Regeneration of a denitration catalyst
 INVENTOR(S): Hino, Masao; Mitsuoka, Shigetoshi
 PATENT ASSIGNEE(S): Mitsubishi Heavy Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 54016394	A2	19790206	JP 1977-81017	19770708
JP 60040895	B4	19850913		

PRIORITY APPLN. INFO.: JP 1977-81017 19770708

L28 ANSWER 137 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Hydrocarbon conversion catalysts which have been poisoned by metals in the feed are regenerated by washing with a reducing solution, optionally followed by washing with an oxidizing solution. Thus, a zeolite cracking catalyst (initial activity rating 80) is used until the metal contents are Ni 2500, V 7500, and Fe 6800 ppm and the activity falls to 59.1. The catalyst is then oxidized to remove C, heated 4 h at 732° with 2.75% (based on catalyst) H2S/min (diluted with N), stabilized in N at 316°, heated with 8.0 L air/min-kg at 332-60° for 25 min, cooled, treated 3 times as a 20% aqueous slurry with SO2 (pH 2.0) for 3 min at 70°, rinsed, and treated twice as a 20% aqueous slurry with 4.54-9.07 kg H2O2/ton at 80° for 3 min, decreasing the Ni, Fe, and U contents by 82, 40, and 45%, resp., and restoring activity to 75.6.

ACCESSION NUMBER: 1978:582205 CAPLUS
 DOCUMENT NUMBER: 89:182205
 TITLE: Demetalization of a catalyst using a combination of reducing and oxidizing washes
 INVENTOR(S): Burk, Emmett H., Jr.; Yoo, Jin S.; Karch, John A.; Sun, Jui-Yuan
 PATENT ASSIGNEE(S): Atlantic Richfield Co., USA
 SOURCE: Fr. Demande, 51 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2354814	A1	19780113	FR 1977-17853	19770610
FR 2354814	B1	19840210		
US 4101444	A	19780718	US 1976-695662	19760614
US 4102811	A	19780725	US 1976-695687	19760614
US 4243550	A	19810106	US 1976-695602	19760614
CA 1087591	A1	19801014	CA 1977-279185	19770526
CA 1087592	A1	19801014	CA 1977-279300	19770527
BR 7803818	A	19780318	BR 1977-3818	19770613
US 4163710	A	19790807	US 1978-877457	19780213

PRIORITY APPLN. INFO.: US 1976-695602 19760614
 US 1976-695662 19760614
 US 1976-695687 19760614
 US 1977-695687 19770614

L28 ANSWER 138 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The activity of the catalyst was completely restored by treating it with an alkaline solution and a nonionic detergent containing flotation and dispersion additives consisting of Na metasilicate 1.5-2, Na tripolyphosphate 0.3-0.5, and calcined soda 0.5-1 weight %, with the remainder being H2O.

ACCESSION NUMBER: 1978:553422 CAPLUS
 DOCUMENT NUMBER: 89:153422
 TITLE: Purification of a nickel-ceramic catalyst for hydrogenation of vegetable oils and fats
 INVENTOR(S): Raemskaya, N. P.; Filimonova, Z. V.; Gorenstein, B. M.; Schmidt, A. A.; Aznaur'yan, M. P.; But, N. D.; Konevets, E. M.
 PATENT ASSIGNEE(S): All-Union Scientific-Research Institute of Fats, Moscow, USSR; Saratov Fats Combine
 SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obratstvy, Tovarnye Znaki 1978, 55(28), 12.
 CODEN: URXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 617066	T	19780730	SU 1974-2038423	19740728
			SU 1974-2038423	19740728

PRIORITY APPLN. INFO.:

L28 ANSWER 139 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB In the title process, a slurry of ash-containing coal in a solvent is preheated and hydrogenated over a supported Group VI or VIII metal catalyst at 370-440°/21.7 MPa. When the catalyst becomes deactivated, metallic impurities are removed mech. Thus, a slurry of coal in a coal liquefaction vacuum distillate is preheated to 421°, held in a dissolver at 482°, and hydrogenated over a Co-Mo-Ni/Al2O3 catalyst at 987° and weight space velocity 1.34/h to give a 94.3% conversion, with a 58.3% yield of liquid b. <415° and a 92.6% recycle of calcium distillate (b. 232-412°) as solvent.

ACCESSION NUMBER: 1978:549398 CAPLUS
 DOCUMENT NUMBER: 89:149398
 TITLE: Liquefaction of coal
 INVENTOR(S): Paraschos, John Angelo; Taylor, Herman, Jr.
 PATENT ASSIGNEE(S): Gulf Research and Development Co., USA
 SOURCE: Ger. Offen., 28 pp.
 CODEN: GWXXRX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2728611	A1	19780601	DE 1977-2728611	19770624
AU 7725922	A1	19781214	AU 1977-25922	19770608
GB 1584583	A	19810211	GB 1977-24922	19770615
ZA 7703679	A	19780530	ZA 1977-3679	19770620
JP 53077203	A2	19780708	JP 1977-142872	19771130

PRIORITY APPLN. INFO.: US 1976-746179 19761130

L28 ANSWER 140 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Spent catalysts for the hydrogenation of isobutylene (I) oligomers are regenerated by treatment with hydrocarbon oils free of asphaltenes at 250-330°, 20-50 kg/cm2, and 1.5-3.5 h-1 (liquid space velocity) in the presence of 100-200 times the catalyst volume of H for
>3 h. Thus, a H2S-treated catalyst containing 3.0% Ni and 15.0% Mo was used for the hydrogenation of I oligomers. The spent catalyst was regenerated with 3 h-1 (liquid space velocity) of light oil at 300° and 30 kg/cm2 in the presence of 100 times the catalyst volume of H for 20 h. The product of I oligomer hydrogenation after the catalyst regeneration contained isobutane 2.5, C8 alkane 82.2, and C12 alkane 15.3 weight%, compared with 7.2, 84, and 8.5 weight%, resp., for a similar product before catalyst regeneration.
ACCESSION NUMBER: 1978:477485 CAPLUS
DOCUMENT NUMBER: 89:77485
TITLE: Regeneration of hydrogenation catalysts for isobutylene oligomers
INVENTOR(S): Kosugi, Masakata; Sekine, Sachio; Takizawa, Haruo
PATENT ASSIGNEE(S): Maruzen Oil Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 53011894	A2	19780202	JP 1976-87054	19760721

PRIORITY APPLN. INFO.: JP 1976-87054 19760721

L28 ANSWER 141 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A process is described for regenerating a Ni catalyst used for reduction of polyenes and acetylenes to alkenes. The process consists of removal of volatiles by treatment with an inert carrier gas such as steam at 120-350 °, elimination of deposited hydrocarbons by oxidation with O and a carrier gas at 350-450 °, reduction with H and a carrier gas at 350-450 °, and a final treatment with H at 350-450 °. The catalyst can be washed with an aromatic solvent prior to treatment. The process serves to remove S compds. For example, a catalyst of 10 weight % Ni on sepiolite was washed with benzene, treated with steam at 350 ° for 20 h, then with a mixture of O and steam for 2 h, slowly increasing the O content to 1.6 % and the temperature to 450 °, followed by a mixture of 20-40% H and steam for 5 h at 400 °, and finally a 20 h treatment with H at 450 °. The regenerated catalyst performed better than a freshly prepared one.
ACCESSION NUMBER: 1978:142285 CAPLUS
DOCUMENT NUMBER: 88:142285
TITLE: Regeneration of catalysts containing nickel
INVENTOR(S): Carruthers, John; Olive, Martin Frederick
PATENT ASSIGNEE(S): British Petroleum Co. Ltd., UK
SOURCE: Fr. Demande, 14 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2329347	A1	19770527	FR 1975-33236	19751030
FR 2329347	B1	19790504		

PRIORITY APPLN. INFO.: FR 1975-33236 19751030

L28 ANSWER 142 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Waste catalysts containing Mo, W, Co, Ni, and (or) V are ground to 1-200 µ, pelletized, calcined, and extracted with H2O or aqueous solns. to give regenerated catalysts useful for the hydrogenation of hydrocarbons. Thus, 100g waste catalyst containing V 9.5, Mo 6.2, Ni 2.0, Co 2.9, S 2.0, and C 10.5% was ground with 100 g zeolite to <200 µ, 100 g of a 5% solids Al2O3 sol solution was added, and the mixture was extruded, pelletized, dried, calcined 2 h at 550°, immersed 2 h in 500 H2O at 80°, and calcined again at 300° for 1 h. A petroleum distillation residue containing 2.87% S and 150 ppm V was hydrorefined in the presence of the regenerated catalyst at 400° and 140 kg/cm2 (H pressure) to give a product oil containing 1.4% S and 45 ppm V, compared with 2.2% and 110 ppm, resp., when the residue was hydrorefined in the presence of a similar catalyst without regeneration.
ACCESSION NUMBER: 1977:554774 CAPLUS
DOCUMENT NUMBER: 87:154774
TITLE: Regeneration of hydrogenation catalysts for petroleum residues
INVENTOR(S): Inooka, Masayoshi; Wakabayashi, Motonobu; Nakamura, Muneakazu; Morimoto, Tatsuo
PATENT ASSIGNEE(S): Chiyoda Chemical Engineering and Construction Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 52068890	A2	19770608	JP 1975-143932	19751205
JP 57020852	B4	19820501		

PRIORITY APPLN. INFO.: JP 1975-143932 19751205

L28 ANSWER 143 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A catalyst comprising 10% Ni on sepiolite having S-Ni atomic ratio 0.092:1, which had been in continuous use for 9150 h in the selective hydrogenation of steam cracker gasoline was regenerated using the following processes, in which all liquid and gas components were in downflow. Washing with benzene 45 h at 200°, 34 bars (gage), space velocity 2 volume/volume/h, and H recycle rate 90 m3/m3, removed 5.5% of gum after which the catalyst was purged with steam 20 h at 350°, 1 bar, and 1200 volume/volume/h. The catalyst was then regenerated by mixing air with the steam flow to give an O content of 0.2 increasing to 1.6 volume % as the inlet temperature rose from 350 to 430°. The catalyst bed was purged of residual O by continuing the steam flow for 2 h, and then the bed was reduced by an H-steam mixture initially for 5 h at 1 bar, H flow 200, and steam flow 300 volume/volume/h. The steam concentration was tapered off to 0 over the 5 h, and the catalyst was finally reduced 20 h at 1 bar with H at 1000 volume/volume/h, maximum catalyst temperature 450°.
ACCESSION NUMBER: 1977:158123 CAPLUS
DOCUMENT NUMBER: 86:158123
TITLE: Improvements relating to the regeneration of support nickel catalysts
INVENTOR(S): Carruthers, John; Olive, Martin F.
PATENT ASSIGNEE(S): British Petroleum Co. Ltd., UK
SOURCE: Brit., 6 pp.
CODEN: BRXXAA
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 1455030	A	19761110	GB 1974-18121	19750409
			GB 1974-18121	19750409

PRIORITY APPLN. INFO.: GB 1974-18121 19750409

L28 ANSWER 144 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Deteriorated Raney-type catalyst is washed with warm H2O and/or aqueous alkali and heated in aqueous alkali with a 1/20-1/200 amount of fresh Raney alloy at 40-90° for 15-90 min. Thus, Raney Ni catalyst (used 50 times) 500 l. (1250 kg) was stirred with H2O 500 l. at 50°, then with 2% NaOH 500 l., and then with 2% NaOH 325 l. and fresh alloy 10.8 kg suspended in 50 l. H2O and added in 20 min. at <50°, heated at 60 ± 2° for 1 hr, stirred with 5 + 2000 l. H2O to obtain regenerated catalyst 550 l. (1260 kg). When used for reduction of glucose, mannitol 0.4% was produced, vs. 3.4% with the used catalyst.

ACCESSION NUMBER: 1976:567302 CAPLUS
 DOCUMENT NUMBER: 85:167302
 TITLE: Regeneration of Raney-type catalyst
 INVENTOR(S): Yamanoi, Hidesuke; Masuda, Tameo
 PATENT ASSIGNEE(S): Nikken Chemicals Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp. CODEN: JXXXXF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51084792	A2	19760724	JP 1975-9695	19750124
PRIORITY APPLN. INFO.:			JP 1975-9695	19750124

L28 ANSWER 145 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB A mixture of 2-isoamylanthraquinone and tetrahydro-2-isoamylanthraquinone in an organic solvent is hydrogenated in the presence of a Ni catalyst heated previously to 120-160° in an alkali medium. With 200-300 g tetrahydro-2-isoamylanthraquinone/l. the degree of hydrogenation of the 2-isoamylanthraquinone is 55-60%. After removal of the Ni catalyst, oxidation of the hydrogenated isoamylanthraquinone, and extraction of the oxidized product with water an aqueous solution containing 30-44 g H2O2/l. is obtained. Thus, a solvent of equal vols. of tert-butyltoluene and 2-octanol containing 2-isoamylanthraquinone 250 and tetrahydro-2-isoamylanthraquinone 250 g/l. was hydrogenated at 60-65° in the presence of a Ni catalyst treated previously at 120-160° for 1-3 hr in 20-5% aqueous NaOH with 25.4 l. H/l. The Ni catalyst was removed and the solution treated O or an O-containing gas and then the H2O2 extracted with water. The product was an aqueous solution containing 38.6 g H2O2/l.

ACCESSION NUMBER: 1976:526755 CAPLUS
 DOCUMENT NUMBER: 85:126755
 TITLE: Hydrogen peroxide by the anthraquinone process
 INVENTOR(S): Franchuk, V. I.; Ovchinnikova, L. I.; Kosareva, V. F.
 PATENT ASSIGNEE(S): USSR
 SOURCE: Ger., 3 pp. CODEN: GWXXAW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1667515	A	19710616	DE 1968-F54579	19680118
DE 1667515	B2	19751120		
DE 1667515	C3	19760930		
PRIORITY APPLN. INFO.:			DE 1968-F54579	19680118

L28 ANSWER 146 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB In the determination of coke on the title catalysts (by observing weight loss on regeneration in air at 600°), the catalysts were preheated in He at 600° for 2 hr, to introduced a correction for the adsorbed gases and moisture; also, a correction was used for the amount of O used to oxidized the reduced form of the catalyst. The coke contents thus, determine were lower by a factor of 2 than those obtained by conventional methods. A Mo-Ni/Al2O3 catalyst contained 3-4 times more coke than a Mo-Ni/bentonite catalyst, when each was used in hydrotreating gasoline-ligroin at 400° and 40 atm for >100 hr. The gases formed in regeneration of catalysts contained SO2, CO2, and CO.

ACCESSION NUMBER: 1976:480594 CAPLUS
 DOCUMENT NUMBER: 85:80594
 TITLE: Study of the regeneration process for hydrogenation-refining catalysts
 AUTHOR(S): Ismailov, T. S.; Sharipov, A. Kh.; Talipov, G. Sh.
 CORPORATE SOURCE: USSR
 SOURCE: Deposited Doc. (1973), VINITI 6495-73, 10 pp.
 Avail.: VINITI
 DOCUMENT TYPE: Report
 LANGUAGE: Russian

L28 ANSWER 147 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Spent hydroalkylation catalysts, containing active metal such as Co or Ni on an acidic oxide support, are regenerated by heating to regeneration temperature in the presence of H. For example, a zeolite Y catalyst containing 6% Ni and 19% W was used at 325°F to react undried benzene plus H to give 16.1% cyclohexylbenzene, which over 82 hr dropped to 6.8% yield. The catalyst unit was then flushed with benzene at 325°F, N at 325°F, then N at 900°F plus increasing amts. of air, then N at 900°F, and finally H at 900°F. After cooling, the regenerated catalyst now gave 20.8% cyclohexylbenzene under the initial conditions, a yield >200% better than with the used catalyst and 30% better than with the initial catalyst.

ACCESSION NUMBER: 1976:141304 CAPLUS
 DOCUMENT NUMBER: 84:141304
 TITLE: Hydroalkylating including regeneration of catalyst
 INVENTOR(S): Suggitt, Robert M.; Crone, John M., Jr.
 PATENT ASSIGNEE(S): Texaco, Inc., USA
 SOURCE: U.S., 7 pp. CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3869523	A	19750304	US 1973-425403	19731217
US 3926842	A	19751216	US 1973-320215	19730102
PRIORITY APPLN. INFO.:			US 1973-320215	19730102

L28 ANSWER 148 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB SiO2 or Al2O3-supported catalysts containing Mo and Ni and/or Co used for **hydrogenation** desulfurization of petroleum residues and contaminated with V are treated with aqueous basic solns. (to selectively remove V and Mo) and impregnated with Mo salts to supplement Mo and regenerate the catalysts. Thus, a used catalyst was washed with kerosine and calcined at 550°. The catalyst (100 g) was immersed 45 min in 2 l. of 1% NaOH at 80°, washed with H2O, dried, immersed in 200 ml of an aqueous solution containing 21 g (NH4)2MoO4, dried at 150°, and calcined 3 hr at 550°. The regenerated catalyst having compressive strength 1.6 kg, sp. surface area 272 m2/g, and voids 0.69 cm3/g was used 100 hr to treat a petroleum residue containing 4.19% S at 390°, 100 kg/cm2, and 1 hr-1 to remove 75% of S, compared with 1.6, 85, 0.3, and 55, resp., for a similar used catalyst regenerated by calcination, and 2.3, 300, 0.93, and 80, resp., for a similar fresh catalyst.

ACCESSION NUMBER: 1976:138256 CAPLUS
DOCUMENT NUMBER: 84:138256
TITLE: Regeneration of desulfurization catalysts
INVENTOR(S): Sugawara, Yujiro; Nakazawa, Tadahisa; Usui, Koichi; Ogawa, Masahide; Komatsu, Masaie
PATENT ASSIGNEE(S): Mizusawa Industrial Chemicals, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 50075185	A2	19750620	JP 1973-124002	19731106
JP 54009395	B4	19790428		

PRIORITY APPLN. INFO.: JP 1973-124002 19731106

L28 ANSWER 149 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A spent catalyst containing Ni and/or Co, W, and a zeolite dispersed in a silica-alumina matrix was heated in situ in a stream of H2 gas at temps. >310° for 1-24 hr. The regenerative gas should contain at least 30 mole % H2. Tests showed that the activity of the regenerated catalyst was restored to the initial level, and in some cases in excess

of the initial activity.
ACCESSION NUMBER: 1976:96082 CAPLUS
DOCUMENT NUMBER: 84:96082
TITLE: Regenerating spent hydroalkylation catalyst containing an oxidizable group VIII metal
INVENTOR(S): Suggitt, Robert M.; Crone, John M., Jr.
PATENT ASSIGNEE(S): Texaco Inc., USA
SOURCE: U.S., 6 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3926842	A	19751216	US 1973-320215	19730102
US 3869523	A	19750304	US 1973-425403	19731217

PRIORITY APPLN. INFO.: US 1973-320215 19730102

L28 ANSWER 150 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB NOx [11104-93-1] is continuously removed from waste gases by using catalysts such as Cu and Ni oxides in the presence of reducing gases in a series of chambers, which allows **catalyst, regeneration**. Thus, waste gas from a boiler was first treated to remove dust, heated to 300-400°, the O2 content brought to <2%, a reducing agent, e.g. H2 [1333-74-0] added, catalytically reduced, and residual reducing agent burned.

ACCESSION NUMBER: 1976:64786 CAPLUS
DOCUMENT NUMBER: 84:64786
TITLE: Nitrogen oxide removal from waste gas
INVENTOR(S): Ito, Hayami
PATENT ASSIGNEE(S): Kawasaki Heavy Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 50045771	A2	19750424	JP 1973-95982	19730827

PRIORITY APPLN. INFO.: JP 1973-95982 19730827

L28 ANSWER 151 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Petroleum hydrotreating catalysts were freed of coke and S [7704-34-9] by spreading the particles in a shallow bed (55 particles deep), flooding the bed with air through its shortest dimension, heating the particles uniformly, and reducing the temperature of the particles to just under the sintering temperature. The high temps. used avoided the formation of toxic products, e.g., Ni carbonyls. The catalyst layer was carried on a perforated belt through a series of 9 or 10 chambers, in which the regeneration conditions were separately controlled. The equipment was described.

ACCESSION NUMBER: 1975:596119 CAPLUS
DOCUMENT NUMBER: 83:196119
TITLE: Regeneration of catalysts used in petroleum refining
INVENTOR(S): Hickman, Leo M.; Miller, Howard L.; Bacic, Thomas A.
PATENT ASSIGNEE(S): USA
SOURCE: Ger. Offen., 37 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2461067	A1	19750717	DE 1974-2461067	19741223
NL 7416823	A	19750701	NL 1974-16823	19741224
FR 2255956	A1	19750725	FR 1974-42908	19741226
JP 50123591	A2	19750929	JP 1975-4218	19741227

PRIORITY APPLN. INFO.: US 1973-428666 19731227

L28 ANSWER 152 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The replacement of descending flow by ascending flow of a gas-liquid reaction mixture through a fixed catalyst bed was examined in the evacuation of liquid phase when passing from processing to catalyst regeneration. The reactor was operated with Al-Ni [7440-02-0]-Mo [7439-98-7] catalyst to hydrofine vacuum distillate at 340-70°. The regeneration in the reactor with ascending flow burned off the coke in 14 hr (compared with 28 hr for descending flow). No complications or temperature flash were produced during coke combustion in the regeneration zone; thus, reactors with ascending flow were usable for hydrogenation.

ACCESSION NUMBER: 1975:596031 CAPLUS
 DOCUMENT NUMBER: 83:196031
 TITLE: Testing the practice of catalyst regeneration in reaction vessels for liquid-phase hydrogenation processes with ascending flow of the reacting mixture

AUTHOR(S): Solov'ev, V. G.; Ermilov, G. T.; Tremasov, V. A.; Terekhin, E. M.; Vaseiko, A. I.; Shevelev, Yu. V.; Kurzanov, V. M.; Kislov, V. D.
 CORPORATE SOURCE: Vses. Nauchno-Issled. Inst. Neft. Prom., Moscow, USSR
 SOURCE: Neftepererabotka i Neftekhimiya (Moscow, Russian Federation) (1975), (7), 8-10
 CODEN: NNNSAF; ISSN: 0233-5727
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 153 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The activity of a zeolite catalyst used in the alkylation of hydrocarbons (e.g., isobutane with butene) was maintained by adding Ni, Pt, Pd, Ru, or Rh to the catalyst and hydrogenating periodically with a solution of H in a hydrocarbon solvent.

ACCESSION NUMBER: 1975:97649 CAPLUS
 DOCUMENT NUMBER: 82:97649
 TITLE: Hydrocarbon alkylation using catalyst regeneration

INVENTOR(S): Yang, Chang-Lee
 PATENT ASSIGNEE(S): Union Carbide Corp.
 SOURCE: U.S., 5 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3851004	A	19741126	US 1973-401178	19730927
BE 820397	A1	19750326	BE 1974-148949	19740926
NL 7412731	A	19750402	NL 1974-12731	19740926
DE 2445927	A1	19750410	DE 1974-2445927	19740926
FR 2245586	A1	19750425	FR 1974-32508	19740926
JP 50059301	A2	19750522	JP 1974-110073	19740926
GB 1483939	A	19770824	GB 1974-41844	19740926
PRIORITY APPLN. INFO.:			US 1973-401178	19730927

L28 ANSWER 154 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Raney Ni catalysts, used in the hydrogenation of invert sugars to sorbitol and mannitol, are regenerated by the addition of Mg metal powder to an acidified mixture of catalyst and invert sugar solution, prior to hydrogenation, forming a soluble Mg salt. The hydrogenation is conducted at 400-2000 psig. and pH 5-6. The process produces a high purity hydrogenated invert sugar containing < 0.3% nonreducing sugars and < 1% impurities. The catalyst is separated by filtration and used in the next batch. The Mg ions may be removed by ion exchange. In an example, the procedure was repeated 20 times without any apparent loss in catalyst activity.

ACCESSION NUMBER: 1975:90651 CAPLUS
 DOCUMENT NUMBER: 82:90651
 TITLE: Raney nickel or cobalt catalyst regeneration

INVENTOR(S): Krzeminski, Zbigniew S.
 PATENT ASSIGNEE(S): C.S.R. Chemicals Ltd.
 SOURCE: Pat. Specif. (Aust.), 12 pp.
 CODEN: ALXXAP
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

L28 ANSWER 155 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Raney Ni used in hydrogenation of organic peroxide polymer is washed with 0.1-5N solution of NH3, hydroxides, carbonates, and/or C1-C4 carboxylic acid salts of alkali and alkaline earth metals at 20-200° under an inert gas. The 10 g Raney Ni was used 30 times to give an equal yield when stirred with 100 ml 0.5N NaOH at 90° for 3 hr under H in an autoclave after each hydrogenation of isoprene peroxide polymer to obtain diols.

ACCESSION NUMBER: 1975:64957 CAPLUS
 DOCUMENT NUMBER: 82:64957
 TITLE: Regeneration of Raney nickel

INVENTOR(S): Mabuchi, Shunsuke; Tsuzuki, Kenji; Matsunaga, Hideaki;
 PATENT ASSIGNEE(S): Shimizu, Sadami; Sumita, Makoto
 SOURCE: Toyo Soda Mfg. Co., Ltd.
 Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49086290	A2	19740819	JP 1972-129219	19721225
JP 53038719	B4	19781017		
DE 2362253	A1	19740704	DE 1973-2362253	19731214
DE 2362253	C3	19790301		
GB 1400340	A	19750716	GB 1973-59098	19731220
FR 2211287	A1	19740719	FR 1973-45980	19731221
US 3896031	A	19750722	US 1973-427683	19731226
US 3980720	A	19760914	US 1974-535125	19741220
PRIORITY APPLN. INFO.:			JP 1972-129219	19721225
			US 1973-427683	19731226

L28 ANSWER 156 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A Raney Ni catalyst employed in hydrogenation of organic peroxides is regenerated by washing with a 0.15N solution at the temperature range of 50-200° under an inert gas. The solution contains at least 1 compound selected from NH3, hydroxide or carbonate of alkali metal or alkaline earth metal, and alkaline earth salts of carbonic acids. Thus, a butadieneperoxide polymer was hydrogenated at 70° and H pressure 50 kg/cm2 with 10g of Raney Ni and the yield of 1,4-butanediol was 56%. Then the catalyst used was regenerated with 100 ml of 0.5N NaOH solution at 90° for 3 hr under H atmospheric, and the separated catalyst was employed for the hydrogenation again. The lowering of the catalytic activity could not be observed after 100 repetitions of the regeneration.

ACCESSION NUMBER: 1975:48142 CAPLUS
 DOCUMENT NUMBER: 82:48142
 TITLE: Regeneration of Raney nickel catalyst
 INVENTOR(S): Mabuchi, Shunsuku
 PATENT ASSIGNEE(S): Toyo Soda Mfg. Co., Ltd.
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JHXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49066000	A2	19740625	JP 1972-108548	19721031
JP 54013877	B4	19790602		

PRIORITY APPLN. INFO.: JP 1972-108548 19721031

L28 ANSWER 157 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A solid catalyst is regenerated by drastically decreasing the reactor pressure at 1/8 of the total per hr. Thus, when the color of the product indicated deactivation of the Ni-Mo catalyst during wax production, the pressure was reduced from 600 to 200 psig, at 100 psig/hr and then returned to 600 psig. The color d. of the product decreased for 22.1 days, indicating catalyst reactivation.

ACCESSION NUMBER: 1975:33200 CAPLUS
 DOCUMENT NUMBER: 82:33200
 TITLE: Desorbing petroleum hydrogenation catalysts
 INVENTOR(S): Kochie, Joseph E.
 PATENT ASSIGNEE(S): Foster Wheeler Corp.
 SOURCE: U.S., 3 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3823085	A	19740709	US 1973-345827	19730328

PRIORITY APPLN. INFO.: US 1973-345827 19730328

L28 ANSWER 158 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB For catalytic hydrogenation desulfurizing and demetallizing hydrocarbon residual oils containing V and Ni without catalyst regeneration a catalyst is used which fulfills specific conditions of particle size, pore diam, and pore distribution. The catalyst comprises an Al2O3 or SiO2-Al2O3 carrier impregnated with Co and Mo, Ni, or Ni and Mo. Catalysts that had characteristics specified in the patent had longer service life than did those not having those specified.

ACCESSION NUMBER: 1974:493863 CAPLUS
 DOCUMENT NUMBER: 81:93863
 TITLE: Catalytic hydrogenation desulfurization of hydrocarbon residual oils
 INVENTOR(S): Pronk, Karel M. A.; Sie, Swan Tjong
 PATENT ASSIGNEE(S): Shell Internationale Research Maatschappij B. V.
 SOURCE: Ger. Offen., 60 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2351136	A1	19740425	DE 1973-2351136	19731011
DE 2351136	C2	19841122		
GB 1407610	A	19750924	GB 1972-47299	19721013
CA 1012478	A1	19770621	CA 1973-177438	19730726
BE 805370	A2	19740327	BE 1973-1005388	19730927
NL 7313986	A	19740416	NL 1973-13986	19731011
FR 2202931	A1	19740510	FR 1973-36334	19731011
JP 49074204	A2	19740717	JP 1973-113339	19731011
JP 59047719	B4	19841121		
ZA 7307909	A	19740828	ZA 1973-7909	19731011
AU 7361292	A1	19750417	AU 1973-61292	19731011
IT 995791	A	19751120	IT 1973-30015	19731011
NO 139002	C	19781220	NO 1973-3944	19731011
NO 139002	B	19780911		
FI 59118	B	19810227	FI 1973-3145	19731011
FI 59118	C	19810610		

PRIORITY APPLN. INFO.: GB 1972-47299 19721013

L28 ANSWER 159 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Aged catalysts were regenerated by successive washings with aqueous solns. of organic acids and bases. Thus, 1 g. of aged catalyst was added to a solution of 1 g. lactic acid in 50 ml. dist. H2O. After stirring for 10 min. at 50°, the mixture was titrated with 0.05 N NaOH to pH .apprx.7. Ice was added and the mixture cooled to 0°. The pH was adjusted to 7.5 with NaOH. The liquid was decanted, and the catalyst was washed with 500 ml. H2O, then with 500 ml. absolute EtOH. The regenerated catalyst had an activity of 250 compared to 100 for fresh catalyst. Other organic acids such as formic, tartaric, and acetic gave similar results.

ACCESSION NUMBER: 1974:442058 CAPLUS
 DOCUMENT NUMBER: 81:42058
 TITLE: Regenerating an aged Raney nickel catalyst with carboxylic acid and base treatment
 INVENTOR(S): Pieters, William J. M.; Freely, John; Anderson, Robert Bernard
 PATENT ASSIGNEE(S): W. R. Grace and Co.
 SOURCE: U.S., 3 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3796670	A	19740312	US 1970-82832	19701021
CA 973864	A1	19750902	CA 1971-125495	19711019

PRIORITY APPLN. INFO.: US 1970-82832 19701021

L28 ANSWER 160 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB An Al-Mo-Ni catalyst used for hydrocracking and hydrofining is regenerated by burning off the coke with an air-steam mixture. The produced gases containing CO₂, SO₂, and SO₃, are cooled and contacted with a circulating solution of 6-8% aqueous Na₂CO₃. The S oxides are absorbed and the CO₂-containing gas is vented to the atmospheric

ACCESSION NUMBER: 1974:122994 CAPLUS
 DOCUMENT NUMBER: 80:122994
 TITLE: Gas-air regeneration of catalysts for hydrogenation processes with recirculation of a soda solution

AUTHOR(S): Rogov, S. P.; Perezhigina, I. Ya.; Finelonov, V. P.; Kislov, V. D.; Khavkin, V. A.; Kozlov, I. T.; Osipov, L. N.; Tremasov, V. A.; Baulin, N. F.; et al.

CORPORATE SOURCE: USSR
 SOURCE: Neftepererabotka i Neftekhimiya (Moscow, Russian Federation) (1973), (10), 10-14
 CODEN: NNNSAF; ISSN: 0233-5727

DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 161 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A catalyst containing NiO 5.3, MoO₃ 12.4% and a trace of CoO on Al₂O₃ was used in a hydrofiner for 1 yr for the 275-430° distillate from bitumen. After shutdown, the catalyst was rinsed with kerosene. In situ treatment for 8 hr at 427° with either air in flue gas or air in steam completely regenerated the catalysts; the 7% S and 8% C were almost completely removed. The catalyst activity was better for either of these than for the one regenerated in a rotary kiln.

ACCESSION NUMBER: 1974:61867 CAPLUS
 DOCUMENT NUMBER: 80:61867
 TITLE: Constant low oxygen concentration gas regeneration of refining catalysts

INVENTOR(S): Tse, Harold F.; Seitzer, H.
 PATENT ASSIGNEE(S): Sun Oil Co.
 SOURCE: U.S., 3 pp.
 CODEN: USXXAM

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3764558	A	19731009	US 1971-156571	19710624
CA 966823	Al	19750429	CA 1972-140615	19720426
PRIORITY APPLN. INFO.:			US 1971-156571	19710624

L28 ANSWER 162 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The activity and lifetime of the catalyst are improved by treatment with a F-containing gas during regeneration. In hydrocracking processes where at least a portion of the higher-boiling fraction of the product stream of the 2nd step is recycled, the catalyst bed for the 2nd step is deactivated by formation of condensed polyarom. compds. in the final products on exposure to O. The deactivated catalyst, consisting of at least 1 hydrogenating metal on an acidic amorphous support, is freed of hydrocarbons by stripping with H followed by an inert gas. The stripped catalyst is regenerated by treatment with air diluted with N, then, successively or simultaneously, with a H₂S/H mixture containing 0.1-20 volume % H₂S at ≥345° until ≥1% S is taken up, and with H containing 0.02 volume % difluoroethane at 175-600°.

ACCESSION NUMBER: 1973:49446 CAPLUS
 DOCUMENT NUMBER: 79:94446
 TITLE: Regeneration of hydrocracking catalysts

INVENTOR(S): Schutt, Hans Uwe
 PATENT ASSIGNEE(S): Shell Internationale Research Maatschappij N. V.
 SOURCE: Ger. Offen., 29 pp.
 CODEN: GWXXBX

DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2249892	Al	19730419	DE 1972-2249892	19721011
US 3725244	A	19730403	US 1971-188408	19711013
PRIORITY APPLN. INFO.:			US 1971-188408	19711013

L28 ANSWER 163 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A Ni catalyst on active Cu (stable to deactivation by S compds.) from an aqueous solution containing 15% Ni(OAc)₂, 5% Co(OAc)₂, and 5% Mo(SO₄)₂. The mode of catalyst regeneration is given. The catalyst activity in the low-temperature hydrofining of high-S solvent petroleum spirit decreased slightly after catalyst regeneration. The S content of gasoline decreased from 20 to 2.7-3 ppm, acid number from 0.43 to 0.29-0.34, and Br number from 0.083 to 0.047 after hydrofining.

ACCESSION NUMBER: 1973:494294 CAPLUS
 DOCUMENT NUMBER: 79:94294
 TITLE: Synthesis of hydrofining catalyst and optimization of the low-temperature hydrofining of gasoline with it

AUTHOR(S): Ozlarski, I.
 CORPORATE SOURCE: Bulg.
 SOURCE: Godishnik na Nauchnoizsledovatel'skiya Institut po Khimicheska Promishlenost (1971), Volume Date 1970, 8(Pt. 2), 177-85
 CODEN: GNKPAG; ISSN: 0560-7051

DOCUMENT TYPE: Journal
 LANGUAGE: Bulgarian

L28 ANSWER 164 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The maximum conversion of asphaltic charge stocks to distillable, lower-boiling hydrocarbon products is effected by mixing with a finely divided metal oxide catalyst selected from the metals of Groups IVB, VB, VIB, and the iron group of the periodic table. Thus, suitable catalytic composites are the unsupported oxides of Ti, Zr, Hf, V, Ta, Cr, Mo, W, Fe, Co, and Ni as well as intimate phys. mixts. of 2 or more of these oxides. The total charge to the reaction chamber is heated to 600-800°F. The reaction chamber is maintained at 1500-3500 psig. The residence or contact time within the reaction chamber is generally 30 secs. to 2 mins. The product effluent is initially separated to provide a hydrogen-rich gaseous phase, ultimately to be recycled to the reaction chamber in admixt. with a hydrocarbon charge stock, and a normally liquid hydrocarbon-metal sulfide slurry. The slurry is passed into a H2S stripping zone. The stripped catalyst-hydrocarbon slurry is filtered. The sludge is regenerated by contact with air, resulting in the production of SO2 and a metal oxide. The SO2 and H2S are then reacted at an elevated temperature to produce water and elemental S.
 ACCESSION NUMBER: 1973:18635 CAPLUS
 DOCUMENT NUMBER: 78:18635
 TITLE: Hydrocarbon desulfurization, sulfur recovery, and catalyst regeneration
 INVENTOR(S): Watkins, Charles H.
 PATENT ASSIGNEE(S): Universal Oil Products Co.
 SOURCE: U.S., 4 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3687629	A	19720829	US 1970-84091	19701026

PRIORITY APPLN. INFO.: US 1970-84091 19701026

L28 ANSWER 166 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Reprocessing of a worked out catalyst, containing W and Ni sulfides, included the reduction melting of the charge containing the worked out catalyst with an additive of a Fe-containing alloy. To increase the recovery of the valuable S-free components, calcium-ferrosilicon 40-50 weight % of the charge was added for the Fe-containing alloy.
 ACCESSION NUMBER: 1971:453885 CAPLUS
 DOCUMENT NUMBER: 75:53885
 TITLE: Reprocessing of a worked out catalyst
 INVENTOR(S): Gusarov, V. N.; Pigasov, S. E.; Ryss, M. A.; Zaiko, V.
 PATENT ASSIGNEE(S): P. Chelyabinsk Electrometallurgical Combine
 SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1971, 48(9), 33.
 CODEN: URXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 296583		19710302	SU	19691015

L28 ANSWER 165 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The catalyst was solvent washed to speed up decoking and to insure an even temperature increase in the reactor. When the temperature attained 250-300°, steam inlet was stopped and the system was cooled by air. The regeneration took .apprx.70-8 hr. The mech. strength and the structure of the catalyst remained unchanged.
 ACCESSION NUMBER: 1973:18516 CAPLUS
 DOCUMENT NUMBER: 78:18516
 TITLE: Experimental vapor-air regeneration of aluminum-cobalt-molybdenum and aluminum-nickel-molybdenum oxide catalysis on industrial hydrofining apparatus
 AUTHOR(S): Kurganov, V. M.; Kushner, B. E.; Finel'onov, V. P.; Agafonov, A. V.; Mynova, Z. A.; Emilov, G. T.; Kislov, V. D.; Baulin, N. F.
 CORPORATE SOURCE: Vses. Nauchno-Issled. Inst. Neft. Prom., Moscow, USSR
 SOURCE: Neftepererabotka i Neftekhimiya (Moscow, Russian Federation) (1972), (8), 1-3
 CODEN: NMNSAF; ISSN: 0233-5727
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 167 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The catalysts are regenerated by dissoln. in H2SO4 and (or) HCl, cementation of Ni by addition of Al powder, and fusion of the precipitated product. The alloy is powdered and treated with NaOH to give a Ni powder as starting material for Raney catalysts. Thus, 450 g of a catalyst containing 67.4% Ni were dissolved in 3 l. H2SO4. After adding 20 g NaCl, pH 1 was obtained with concentrated H2SO4. Al powder 400 TV of <100 µm grain size (96 g) was added with vigorous stirring in 15 min to 1 l. of the solution heated to 90°. The solution, quickly cooled to room temperature, was filtered, washed 3 times with 300 ml boiling H2O, and dried in a nonoxidizing atmospheric to give a powder containing 99.3 g Ni and 28.2 g Al.
 ACCESSION NUMBER: 1971:116485 CAPLUS
 DOCUMENT NUMBER: 74:116485
 TITLE: Regeneration of Raney nickel catalysts
 INVENTOR(S): Gandon, Louis; Bozec, Christian; Laville, Jean M.; Solar, Serge
 PATENT ASSIGNEE(S): International Nickel Ltd.
 SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2038753	A	19710304	DE 1970-2038753	19700804
FR 2055967	A5	19710514	FR 1969-27705	19690812
GB 1313574	A	19730411	GB 1970-36867	19700730
AT 301496	B	19720911	AT 1970-7208	19700807
CH 517523	A	19720115	CH 1970-517523	19700811
NL 7011894	A	19710216	NL 1970-11894	19700812
JP 49007320	B4	19740219	JP 1970-70136	19700812

PRIORITY APPLN. INFO.: FR 1969-27705 19690812

L28 ANSWER 168 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A previous study of the chemisorption of H₂S on a Ni catalyst has been extended. Steam has no influence on the chemisorption equilibrium.
Regeneration by means of desorption of H₂S may be slow process. Principles for the regeneration of Ni catalysts by means of oxidation and reduction have been studied. The expts. have included unpromoted and promoted catalysts and indicate great differences in their behavior.

ACCESSION NUMBER: 1971:116373 CAPLUS
DOCUMENT NUMBER: 74:116373
TITLE: Principles relating to the regeneration of sulfur-poisoned nickel catalyst
AUTHOR(S): Rostrup-Nielsen, Jens R.
CORPORATE SOURCE: Haldor Topsoe Res. Lab., Vedbaek, Den.
SOURCE: Journal of Catalysis (1971), 21(2), 171-8
CODEN: JCTLAS; ISSN: 0021-9517
DOCUMENT TYPE: Journal
LANGUAGE: English

L28 ANSWER 169 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Ni/SiO₂ or Co/SiO₂ catalysts, used in the hydrogenation of aromatic or olefinic hydrocarbons and deactivated especially by their S impurities, were regenerated in the solid bed reactor by heating at 300-600° under O or air, cooling, treating with liquid H₂O at increased temps. and subsequently with H at 200-500°. Thus, a 20% Ni/SiO₂ catalyst of 200 m²/g sp. surface and 0.7 ml/g total pore volume, which was deactivated in a C₆H₆ hydrogenation, was heated 2 hr at 500° and 250 l. air/l. catalyst hr at 2 atm, cooled to 80° under air treated 8 hr with 2 l. H₂O/l. catalyst hr at 80°, dried at 200°, and treated 12 hr with 200 l. H/l. catalyst hr at 400° and 5 atm to give a regenerated catalyst, over which a charge was hydrogenated at 100° with 59% conversion.

ACCESSION NUMBER: 1971:35152 CAPLUS
DOCUMENT NUMBER: 74:35152
TITLE: Regeneration of hydrogenation catalysts
INVENTOR(S): Cosyns, Jean; Duhaut, Pierre
PATENT ASSIGNEE(S): Institut Francais du Petrole, des Carburants et Lubrifiants
SOURCE: Ger. Offen., 24 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2018244	A	19701112	DE 1970-2018244	19700416
PRIORITY APPLN. INFO.:			FR 1969-12376	19690418

L28 ANSWER 170 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A Co-Ni hydrogenation catalyst was regenerated with steam (containing air equivalent to 0.5 mole % O) at 1 lb steam/hr-lb catalyst at .apprx.100 psig and 600°F. After coke burnoff was initiated, the temperature of the flame front was maintained at 750°F. Coke burnoff was completed by bringing the flame front temperature to .apprx.800°F. After coke burnoff, the steam flow was terminated and air flow continued to cool

the catalyst to .apprx.350°F. The regenerated catalyst might be sulfided. The catalyst was stored in the regeneration vessel.
ACCESSION NUMBER: 1971:24081 CAPLUS
DOCUMENT NUMBER: 74:24081
TITLE: Particulate catalyst regeneration in processes involving the catalytic treatment of hydrocarbon oils
INVENTOR(S): Rapp, Lester M.
PATENT ASSIGNEE(S): Cities Service Research and Development Co.
SOURCE: U.S., 5 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3541002	A	19701117	US 1967-694561	19671229
PRIORITY APPLN. INFO.:			US 1967-694561	19671229

L28 ANSWER 171 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A Co-Ni-Mo-Al₂O₃-SiO₂ hydrotreating catalyst was contaminated by .apprx.6.1% C and 6.15% S in a com. operation. The deactivated catalyst was regenerated in 3 stages with 1:99 (volume%) O-N at 650°F for 3 hr; with 1:99 (volume%) O-N at 825°F for 1.5 hr; and with 4:96 (volume%) O-N at 1075°F for 4 hr. The regenerated catalyst had a relative activity coefficient of 266, with no C deposition and 0.12% S.

The relative activity coeffs. of the deactivated catalyst and the freshly prepared catalyst were 100 and 285, resp. Prior to regeneration, the charge heater was isolated from the conversion zone. The scale deposits of metallic disulfides were removed from the heater to prevent sulfate formation on the catalyst.

ACCESSION NUMBER: 1970:532728 CAPLUS
DOCUMENT NUMBER: 73:132728
TITLE: Regeneration of sulfur-contaminated carbonized catalyst subsequent to sulfide scale removal from heater
INVENTOR(S): Weinert, Peter C.
PATENT ASSIGNEE(S): Universal Oil Products Co.
SOURCE: U.S., 10 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3533960	A	19701013	US 1967-697248	19671006
PRIORITY APPLN. INFO.:			US 1967-697248	19671006

L28 ANSWER 172 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The Cr2O3 content of catalysts, normally lost on regeneration, is maintained by spraying a dilute solution of H2CrO4 into the superheated steam-air mixture used for regeneration. The preferred amount added is 0.1-0.15 lbs. (as CrO3)/1000 ft3 of catalyst. The H2CrO4 forms finely divided CrO3 which is deposited on the catalyst and converted to Cr2O3 either by reaction with the carbonaceous deposits formed on the catalyst during regeneration or by reaction with H present during the dehydrogenation cycle. The method has the added advantage of speeding the regeneration process.
ACCESSION NUMBER: 1970:502483 CAPLUS
DOCUMENT NUMBER: 73:102483
TITLE: Regenerating of chromium oxide-containing dehydrogenation catalysts
INVENTOR(S): Frevel, Ludo K.
PATENT ASSIGNEE(S): Dow Chemical Co.
SOURCE: U.S., 2 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3524821	A	19700818	US 1967-633711	19670426
BE 750819	A	19701123	BE 1970-750819	19700522
PRIORITY APPLN. INFO.:			US 1967-633711	19670426

L28 ANSWER 173 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Spent **hydrogenation** catalysts were regenerated by treating them with reducing gases. Ni, Co, and Fe were recovered by treating the catalysts with H at 300-600° and 1-20 atm; then with CO at 50-200°, 1-100 atm, and volume rate of CO supply 100-1000/hr-1.
ACCESSION NUMBER: 1970:502480 CAPLUS
DOCUMENT NUMBER: 73:102480
TITLE: Regeneration of worked out catalysts
INVENTOR(S): Berg, G. A.; Danilova, R. A.; Dubinina, G. G.
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obratzy, Tovarnye Znaki 1970, 47(19), 23.
CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 272281		19700603	SU	19690107

L28 ANSWER 174 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The title process included desorption of volatile hydrocarbons, combustion of coke and S, stripping the catalyst pellets to remove the poisons (Fe, V, As) accumulated on the external layer, grinding, mixing the powder with graphite, tableting, and sulfiding the tablets. The oxidative regeneration started in hot N containing 1-2% O and hot air was gradually added, avoiding heating over 500°. The process was complete when the outlet gas contained no CO2 or SO2.
ACCESSION NUMBER: 1970:437114 CAPLUS
DOCUMENT NUMBER: 73:37114
TITLE: Regeneration of the aluminonickel-tungsten catalyst 8376 on experimental-industrial apparatus
AUTHOR(S): Valitov, N. Kh.; Panchenkov, G. M.; Zakharov, M. S.; Poteryakhin, V. A.; Tanatarov, M. A.
CORPORATE SOURCE: USSR
SOURCE: Neftepererabotka i Neftekhimiya (Moscow, Russian Federation) (1970), (5), 12-14
CODEN: NNNSAF; ISSN: 0233-5727
DOCUMENT TYPE: Journal
LANGUAGE: Russian

L28 ANSWER 175 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Supported metal oxide catalysts (Mo, Co, Ni, or W oxides), which were contaminated with C-, V- and Ni-containing deposits during the **hydrogenation** of crude hydrocarbon fractions, were regenerated in a 2-step process. First, the C-containing impurities were burned with gases containing O and then the metallic impurities were removed by washing with aqueous oxalic acid. Thus, a 12:3:85 MoO3-CoO-Al2O3 catalyst of 240 m2/g sp. surface and 0.53 cm3/g pore volume was contaminated in the desulfurization and demetallation of Kuwait residue to give a catalyst containing 6% V and 0.9% Ni and having 80 m2/g sp. surface and 0.33 cm3/g pore volume. This catalyst was washed with gas oil, heated at 550° in N containing <1% O, and washed 1 hr at 80° with 90 g/l. oxalic acid to give complete regeneration.
ACCESSION NUMBER: 1970:427311 CAPLUS
DOCUMENT NUMBER: 73:27311
TITLE: Regeneration of supported group VI or VIII catalysts for the **hydrogenation** of hydrocarbons
INVENTOR(S): Page, Jean F. U.; Baumgartner, Pierre; Duhaut, Pierre
PATENT ASSIGNEE(S): Institut Francais du Petrole, des Carburants et Lubrifiants
SOURCE: Ger. Offen., 11 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1954899	A	19700521	DE 1969-1954899	19691031
FR 1603515	A	19710503	FR 1968-172653	19681105
BE 741201	A	19700416	BE 1969-741201	19691103
NL 6916508	A	19700508	NL 1969-16508	19691103
ES 373163	A1	19720316	ES 1969-373163	19691104
PRIORITY APPLN. INFO.:			FR 1968-172653	19681105

L28 ANSWER 176 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Regeneration of a (Ni₈-W₅2)/Al₂O₃ hydrogenation catalyst by burning off the coke and excess S, removing surface layers of Fe, V, and As compds. in a ball mill, grinding the pellets to 315 μ particle size, mixing the resulting powder with graphite, pelletizing the mixture, and sulfidizing it to 7% S content restored almost all of the original activity. By hydrogenating a straight distillation 153-253° kerosine fraction introduced at 140 ml/hr with 70 l. H/hr on 94 g of fresh and regenerated catalysts, resp., at 300 ± 10 atm and 360 ± 1.5°, the total S content was reduced from 0.63 (20% sulfurizing) to 0.022 and 0.026% (3 and 4% sulfurizing).
 ACCESSION NUMBER: 1970:405674 CAPLUS
 DOCUMENT NUMBER: 73:5674
 TITLE: Regeneration of alumina-nickel-tungsten sulfide hydrogenation catalysts
 AUTHOR(S): Valitov, N. Kh.; Panchenkov, G. M.; Balandina, K. L.
 CORPORATE SOURCE: MINKhGP Im. Gubkina, Moscow, USSR
 SOURCE: Neftepererabotka i Neftekhimiya (Moscow, Russian Federation) (1970), (3), 8-9
 CODEN: NNNSAF; ISSN: 0233-5727
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 177 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A reforming catalyst consisting of Ni, Co, or Fe, activated by K, and containing oxides of metals, such as Al, Mg, Th, Zr, or Si, is poisoned by S present in the material being reformed after a period of use. This poisoned catalyst is regenerated in the reforming apparatus by firstpassing through the catalyst an oxidizing mixture of steam and (or) O or O-containing gas at 400-900°, preferably 550-750°, under atmospheric or superatm. pressure and then a reducing mixture of steam and H or H-forming compds. such as hydrocarbons, MeOH, CO + H₂O, NH₃, N₂H₄ at 600-900°, preferably 700-950°, under 10-40 bars for 1-24 hr, normally 4-8 hr. In the oxidation stage, the amount of H₂O used was 300 times the necessary stoichiometric amount; in the reducing stage, an H₂O-H₂ mole ratio of 30-400:1, preferably 50-300:1, was used; but if the catalyst contained Ni, the H₂O-H₂ mole ratio was 20-5:1, preferably 10:1. Thus, 62 g of a poisoned catalyst containing Ni activated with K was subjected at 30 bars first to an oxidative treatment during 2 hr with 55.5 moles O steam/hr at 700° and then to a reducing treatment during 6 hr at 800° with 55.5 moles H₂O/hr containing H₂ in a H₂O:H₂ ratio of 250:1. An extent of regeneration of 90-5% was obtained.
 ACCESSION NUMBER: 1970:81178 CAPLUS
 DOCUMENT NUMBER: 72:81178
 TITLE: Reforming process catalyst regeneration
 INVENTOR(S): Topsoe, Haldor F. A.
 SOURCE: Fr., 13 pp.
 CODEN: FRXXAK
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1568433	A	19690523	FR 1968-148912	19680422
PRIORITY APPLN. INFO.:			DK 1967-2137	A 19670420

L28 ANSWER 178 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The catalysts were regenerated by treatment with acetylacetonatonickel, acetyl-acetonatomolybdenum (I), or SnCl₄ in Me₂S and reduction with 7.5-10 volume % H₂S-H for 40-50 hr at 482°, 500°, or 982° and 49.5, 65.2, or 126 atmospheric. Thus, a SiO₂-Al₂O₃-supported catalyst containing Ni 4.7, W 3.2, and F 3.2% and deactivated by the deposition of 58 C as coke and 0.13% N was impregnated with a 1.3% Mo-containing I solution in Me₂S and reduced with 10 volume % H₂S-H mixture for 40 hr at 982°, 65 atm, and space velocity 950 vols./volume/hr. After hydrocracking of gas oil for 80 hr at 105 atm, 293°, and space velocity 0.67 volume/volume/hr and a 67% conversion to gasoline, the C and N deposition on the catalyst were 0.7% and 0.01%, resp.
 ACCESSION NUMBER: 1970:34057 CAPLUS
 DOCUMENT NUMBER: 72:34057
 TITLE: Regeneration of nickel molybdenum hydrocracking catalysts
 INVENTOR(S): Schutt, Hans U.
 PATENT ASSIGNEE(S): Shell Internationale Research Maatschappij N. V.
 SOURCE: Ger. Offen., 20 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1921693	A	19691120	DE 1969-1921693	19690428
US 3558514	A	19710126	US 1968-725194	19680429
NL 6906503	A	19691031	NL 1969-6503	19690428
FR 2007189	A5	19700102	FR 1969-13402	19690428
PRIORITY APPLN. INFO.:			US 1968-725194	19680429

L28 ANSWER 179 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB An effective stationary Ni catalyst, in various modifications, was developed for hydrogenation of oils. Powder presintering techniques were used to impart porosity to the catalyst. Catalyst regeneration and activation methods were developed and the catalyst was thoroughly tested during hydrogenation of oils.
 ACCESSION NUMBER: 1969:89356 CAPLUS
 DOCUMENT NUMBER: 70:89356
 TITLE: New type catalysts and principles of their production
 AUTHOR(S): Dubrovskii, A. P.; Bakarionova, V. I.; Shmidt, A. A.; Geishina, K. V.; Raemskaya, N. P.
 CORPORATE SOURCE: USSR
 SOURCE: Porosh. Met. Novol Tekh. (1968) 41-52
 From: Ref. Zh., Met., 1968, Abstr. No. 8G356
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 180 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The oxidation rates of Ni, Cu, and Ni-Cu powders obtained in various ways were studied and compared with the oxidation rates of fat-free metal catalysts. The roles of the formation of an oxide film and of O diffusion through the film in the catalyst regeneration were discussed. The combustion of residual organic compds. in fat-free catalysts allows the decrease of the heating temperature down to 250°. The effects of heating at high temperature and of fat removal by Me2CO on the solubility of the catalysts in H2SO4 were studied.
ACCESSION NUMBER: 1969:23257 CAPLUS
DOCUMENT NUMBER: 70:23257
TITLE: Air-oxidation tests on fat-free catalyst metals
AUTHOR(S): Mishkareva, L. V.; Sterlin, B. Ya.
CORPORATE SOURCE: USSR
SOURCE: Trudy, Vsesoyuznyi Nauchno-Issledovatel'skii Institut Zhirov (1967), No. 26, 322-9
CODEN: TVZHAS; ISSN: 0372-3259
DOCUMENT TYPE: Journal
LANGUAGE: Russian

L28 ANSWER 181 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Fat removal by Me2CO from metal catalysts was studied in the ratio solvent: catalyst of 10 to 1 and compared to removal by C6H6. A single and short duration extraction allows the removal of 95% of the fat. The catalyst-Me2CO suspension sep. in 2 layers, a 20-5% fatty one and another containing the catalysts; the 2nd fraction, by washing with Me2CO, gives the fat-free catalyst and an Me2CO solution which may be used to extract a new catalyst fraction.
ACCESSION NUMBER: 1969:23234 CAPLUS
DOCUMENT NUMBER: 70:23234
TITLE: Removal of fat from the spent catalyst as the preliminary step in metal catalyst regeneration
AUTHOR(S): Mishkareva, L. V.; Sterlin, B. Ya.; Charikova, M. S.
CORPORATE SOURCE: USSR
SOURCE: Trudy, Vsesoyuznyi Nauchno-Issledovatel'skii Institut Zhirov (1967), No. 26, 317-21
CODEN: TVZHAS; ISSN: 0372-3259
DOCUMENT TYPE: Journal
LANGUAGE: Russian

L28 ANSWER 182 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Continuous hydrogenation of cottonseed oil on a stationary catalyst under H pressure to 10 atmospheric was studied in a laboratory reactor and on an enlarged industrial apparatus. A granulated, alloyed Ni catalyst with an addition agent was used as the catalyst; this catalyst was regenerated directly in the reaction apparatus by leaching with a solution of NaOH with subsequent drying in a H stream at 110°. Hydrogenation was conducted at 80-100, 120, 140, and 160° in alc. or n-hexane or in the absence of a solvent. The optimum temperature, pressure, and spatial hydrogenation velocity conditions were determined which result in the production of hydrogenated fat for food purposes, toilet or household soap, and thoroughly hydrogenated fat. Catalyst regeneration is discussed in relation to operation in the laboratory apparatus and in the enlarged apparatus. Ni consumption was 0.02% for 50 days of operation in the enlarged apparatus. The catalyst is suitable for com. hydrogenation of cottonseed oil with or without a solvent. The advantages of conducting the process in a flow-type system are listed. A line diagram of the apparatus is given along with detailed characteristics of the resulting hydrogenated fats.
ACCESSION NUMBER: 1969:18942 CAPLUS
DOCUMENT NUMBER: 70:18942
TITLE: Hydrogenation of cottonseed oil over a stationary catalyst in a flow-type apparatus
AUTHOR(S): Shiyakhov, V. I.; Sokol'skii, D. V.; Golodov, F. G.; Orlov, V. K.
CORPORATE SOURCE: USSR
SOURCE: Gidrirovanie Zhirov, Sakharov Furfurola (1967) 117-24
From: Ref. Zh., Khim. 1968, Abstr. No. 10R435
DOCUMENT TYPE: Journal
LANGUAGE: Russian

L28 ANSWER 183 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The title process is applicable to the catalytic hydrotreating of naphthenes containing feedstocks, such as crude oil and atmospheric and vacuum tower bottoms. It consists of collecting from the hydrotreating unit under normal operation a first cycle oil fraction b. >650°F. and switching from the normal feed to this first cycle oil during the regeneration phase. A second cycle oil b. >650°F. is thus obtained which is later joined with the initial feedstock in the next normal phase of operation. This first cycle oil effects the dissoln. of the asphaltenic material from the catalyst. It is capable of transferring H from itself to the naphthenes so as to convert them to pentane-soluble products. The operating temperature in the normal hydrotreating phase is 425-500°, and during the regeneration stage 300-425°. All other conditions remain the same during both phases. For instance, a topped Wyoming sour crude was hydrotreated. Its gravity was 19.5° A.P.I. at 60°F., and contained 3 weight % S, 2900 ppm. N, 105 ppm. combined Ni and V, and 8.5 weight % of a pentaneinsol. asphaltenic fraction. The catalyst was a composite of 2 weight % Ni and 16% Mo on a carrier of Al2O3 68, SiO2 10, and B phosphate 22% by weight. The crude was introduced at a rate of 200 g./hr. into a reactor containing 100 g. of catalyst in the form of spheres of 20-150µ. The inlet temperature was 790°F., the H:oil ratio 50,000 standard ft.3/bbl., and the pressure was 3000 psig. After 36 hrs., a total of 7200 g. oil was processed. Inspection of the catalyst indicated 1.03% of the oil to be deposited on the catalyst as C, while the catalyst was bonded together in one mass. The liquid product from this period had a gravity of 33.1° A.P.I. at 60°F. In a second test, the same crude was processed in the same conditions for 18 hrs. to yield a total liquid product of 32.9° gravity, of which the heavy cycle oil fraction had a 21.7° gravity. Then the feed was switched from crude to this heavy cycle oil for the next 9 hrs., then back to crude for 18 hrs. and finally to cycle oil again for another 9 hrs. A total of 7200 g. crude was thus processed as well as 3600 g. of the cycle oil. Inspection at that moment showed that 91% of the catalyst passed 60-mesh and that 0.55% of the total hydrocarbons treated remained on the catalyst as C. The total liquid product from the crude had a gravity of 32.9°, while that from the cycle oil was 27.5°.
ACCESSION NUMBER: 1968:445101 CAPLUS
DOCUMENT NUMBER: 69:45101
TITLE: Regeneration of asphaltene hydrotreating catalyst
INVENTOR(S): Gleim, William K. T.; O'Hara, Mark J.
PATENT ASSIGNEE(S): Universal Oil Products Co.
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3389077	A	19680618	US 1965-511975	19651206
PRIORITY APPL. INFO.:			US 1965-511975	19651206

L28 ANSWER 184 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The title catalyst is used for the hydrogenation of PhOH to cyclohexanol (I) and is regenerated by washing with an organic solvent.
 To improve the quality of I and to increase the life-time of the catalyst rectified cyclohexanone is used as the solvent.
 ACCESSION NUMBER: 1968:418694 CAPLUS
 DOCUMENT NUMBER: 69:18694
 TITLE: Regeneration of nickel-chromium catalyst
 INVENTOR(S): Kervalishvili, Z. Ya.; Gvaliya, N. K.
 SOURCE: U.S.S.R. From: Izobret., Prom. Obratzye, Tovarnye Znaki 1967, 44(16), 16.
 CODEN: URXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 199838		19670713	SU	19651022

L28 ANSWER 186 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A catalyst containing 0.5-25 weight % Ni deposited on an acidic, refractory oxide catalyst (e.g. SiO₂ + Al₂O₃, MgO, TiO₂, or ZrO₃), which had been deactivated by the deposition of N compounds, was regenerated with a gaseous mixture comprising H and 5-20 volume % H₂S at 427-593° and 35-175 atmospheric. The method is suitable for processes where the C deposition is not too high, such as hydrofining and hydrocracking. Since the C depositions are only partially removed, an air regeneration may be necessary if the C content of the catalyst becomes too high.
 ACCESSION NUMBER: 1968:70995 CAPLUS
 DOCUMENT NUMBER: 68:70995
 TITLE: Nickel catalyst regeneration
 PATENT ASSIGNEE(S): Shell Internationale Research Maatschappij N. V.
 SOURCE: Meth. Appl., 9 pp.
 CODEN: NAXXAN
 DOCUMENT TYPE: Patent
 LANGUAGE: Dutch
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6706444		19671113	DE	
DE 1667260			FR	
FR 1528952			GB	
GB 1119640			US	
US 3459675		19690000	US	19660511

PRIORITY APPLIN. INFO.:

L28 ANSWER 185 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB In the preparation of lean gas and town gas by naphtha reforming, the use of U with Ni on α -Al₂O₃ improved the life of the catalyst and the S resistance, and maintained the reaction equilibrium during the run. The U and Ni form a complex Ni uranate, and many physicochem. data are presented. Less K is needed to make a neutral catalyst, and the normal use of γ -Al₂O₃ is eliminated. The nature of the coke deposit is described in detail, and the U reduces the crystallite size of the Ni. Analyses of the nitrate or acetate forms of the Ni and U used for impregnation show that 400° is sufficient for decomposition but that 580° is required to form the oxides. The Lewis acid content was measured by a nonaq. butylamine titration by using a series of Hammett indicators. No Bronsted acid content could be found, but the Lewis acidity was checked independently by adsorption of various bases. This acidity was neutralized by addition of only 0.15-0.22% K to the Al₂O₃. A modified B.E.T. surface area was determined after each impregnation of the Al₂O₃. The U + Ni data showed greater area than that of the individual metals. Reduction of the catalyst proceeds 4 times as rapidly with CO as with H. NiUO₄ is reduced to NiO and U₄O₉, and the latter to UO₂. About 4500 hrs. of pilot-plant operation (lean gas) are described and compared with a 2nd operation in which town gas was made for 815 hrs. The carryover of K was nil, and KOAc was found to be the best source of K. Equilibrium data were obtained for the reaction 2CO \rightleftharpoons C + CO₂ in a CO atmospheric and in a mixture of CO and CO₂ at approx. equilibrium composition for 3 catalysts at 350, 400, 500, 600, 700, and 800°, also calculated values on the basis of C = graphite. For C₄H₁₀ reforming, the addition of U converts the kinetics from $d[C_4H_{10}]/dt = k[H_2O][C_4H_{10}]$ to $d[C_4H_{10}]/dt = k[C_4H_{10}]^{0.6}/[H_2O]^{0.6}$. Values of activation energy ranging from 7.5 kcal./g. mole for 9.0% U to 27.5 for 0% U, for catalysts containing 5.5% Ni, were obtained by D.T.A. by using 2 independent methods. C oxidation was the reaction studied, and a lower catalyst regeneration temperature resulted from this work.

ACCESSION NUMBER: 1968:116150 CAPLUS
 DOCUMENT NUMBER: 68:116150
 TITLE: Influence of uranium on nickel / α -alumina (reforming) catalysts
 AUTHOR(S): Nicklin, Thomas; Whittaker, R. J.
 SOURCE: Institution of Gas Engineers Journal (1968), 8(1), 15-39
 CODEN: IGEJ99; ISSN: 0020-3432
 DOCUMENT TYPE: Journal
 LANGUAGE: English

L28 ANSWER 187 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Feed-stocks with an initial b.p. $\geq 204^\circ$ (of which 50% b. $\geq 260^\circ$) and a final b.p. $\geq 316^\circ$ can be hydrocracked at $< 421^\circ$, preferably 316-400°, and 35-140 atmospheric over a crystalline rare earth aluminosilicate catalyst containing Ni-W sulfides, sulfurized Co-Mo oxides, or Pt. The catalyst is regenerated by heating in an O-free H atmospheric to 204-650°, the regeneration temperature being always 22-252° above the operating temperature. If the hydrocracking temperature is $> 421^\circ$, the C deposits on the catalyst cannot be removed in this way. Thus, a 13X Na aluminosilicate mol. sieve was exchanged with an aqueous solution of rare earth chlorides containing, as oxides, La₂O₃ 24, Ce₂O₃ 48, Pr₆O₁₁ 5, Nd₂O₃ 17, Sm₂O₃ 3, Gd₂O₃ 2, Y₂O₃ 0.2, and unidentified rare earth oxides 0.8% by weight. After washing and drying at 104° for 20 hrs., the Na-free product was ground to 0.71-1.41 mm. diameter and calcined 10 hrs. at 538° to give I containing 27.4% by weight rare earth oxides, after which 111.4 g. of I was impregnated with 66 cc. of an aqueous solution of NH₄ tungstates containing 0.158 g. of W/cc., adjusted to pH 6.5 with citric acid, and dried 16 hrs. at 110°, after which the impregnation was repeated by using 15.3 cc. of the same solution and the product dried as before and calcined in an atmospheric of N with 2% by volume of O at 538° for 24 hrs. The calcined product was then impregnated with an aqueous solution of Ni(NO₃)₂ containing 0.04 g. Ni/cc., dried as before, and calcined 3 hrs. at 538° to give a product containing 9.8% W and 3.8% Ni by weight. This was then heated to 427° and an equivol. mixture of H and H₂S blown through it at 200 ml./min./100 ml. catalyst to give II, containing 3.8% by weight of S. The preparation of other catalysts on a base identical with or similar to I is described. A feed gas oil of 0.894 sp. gr., 32° pour point, 86° aniline point, b. 304 to $> 507^\circ$, containing N 0.06, S 0.57, and O 0.77% by weight was hydrocracked over II at 140 atmospheric, 0.5 volume/volume/hr., and 381-90° with 0.534 m.3 of H/l. of feed to give 40% by volume conversion to products b. 77-199°. After 6 days, the catalyst was regenerated in the conventional manner at 399° by using a mixture of 590 l. N/100 ml. catalyst/min. and 12 ml. O/100 ml./min., giving a combustion-zone temperature of 427-82°, followed by air at 538°, after which the catalyst was sulfurized and returned to service. Regeneration had to be repeated approx. every 3 days, and after the fifth regeneration the operating temperature was 395-400° for the same total liquid product yield, with a rise in gas production from 2.0 to 2.6% by weight of the feed and a wdn to 30.3% in the product b. 77-199°.

ACCESSION NUMBER: 1967:404656 CAPLUS
 DOCUMENT NUMBER: 67:4656
 TITLE: Low-temperature hydrocracking process and non-oxidative catalyst regeneration
 PATENT ASSIGNEE(S): Mobil Oil Corp.
 SOURCE: Fr., 17 pp.
 CODEN: FRXXAK
 DOCUMENT TYPE: Patent
 LANGUAGE: French

L28 ANSWER 187 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1457382		19661104	FR	19650713

L28 ANSWER 188 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The process consists of adding 1-10% (based on the weight of the metal) of an organometallic compound, such as Mo(CO)₆, to a heavy hydrocarbon charge stock for removal of N and S compds. and to convert the C₅H₁₂-insol. asphaltenes into useful C₅H₁₂-soluble hydrocarbons. Thus, 450 g. Wyoming sour crude oil (gravity 23.2° API at 60°F. and containing approx. N 2700, Ni 18, and V 81 ppm., 2.8% S, and 8.39% C₅H₁₂-insol. asphaltenes) was slowly mixed with 23.2 g. Mo(CO)₆ and 42 g. vanadyl acetylacetonate in AMOH, heated at 200° to distill the alc., placed under 100 atmospheric H and heated for 6 hrs. at 400° (H pressure 200 atmospheric at 400°) to give a liquid product (after separation from the sludge) with API gravity 35.5° at 60°F. and containing N <10, Ni <0.1, and V <0.1 ppm., 0.02% S, and 0.15% C₅H₁₂-insol. asphaltenes. The sludge .apprx. (60 g.) containing the organometallic catalyst was mixed for 0.5 hr. with 60 cc. C₆H₆ and centrifuged. The sludge (50 g.) was separated and mixed with 500 ml. of a solution of 10 g. S₂Cl₂ for 1 hr. at 300° to convert the asphaltic material to coke and liquid hydrocarbons. About 5 g. of solid was separated and the supernatant liquid, along with the C₆H₆ from the preceding separation, was added to the fresh crude oil obtained from the initial hydrotreating. The crude oil mixture was heated at 400° under H (200 atmospheric) for 8 hrs. and centrifuged to give a liquid product containing N <10, Ni <0.1, and V <0.1 ppm., <0.10% S, and .apprx. 0.02% C₅H₁₂-insol. asphaltenes. Phosphomolybdic acid gave similar results when used as the catalyst.
ACCESSION NUMBER: 1967:87335 CAPLUS
DOCUMENT NUMBER: 66:87335
TITLE: Regenerative hydrotreating of petroleum
INVENTOR(S): Gleim, William K. T.
PATENT ASSIGNEE(S): Universal Oil Products Co.
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3293172		19661220	US	19640429

L28 ANSWER 189 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A colloidal dispersed hydrotreating catalyst made up of an organometallic compound with metals from Group VI-B greater than 24 atomic number, Group V-B, or the Fe group, is used in treatment of crude oil to remove undesirable metallics, S, and asphaltene compds. Catalyst is regenerated while in a colloidal suspension in the presence of H. Thus, 23.3 g. molybdenum hexacarbonyl mixed with 200 g. Wyoming sour crude and charged to an autoclave was heated to 250° for 3 hrs.; CO was vented and the mixture brought to 400°/200 atmospheric. Effluent from the treatment zone was centrifugally separated. The liquid contained <10 ppm. N, 0.02% weight S, 0.20% by weight pentane insoluble, <0.02 ppm. Ni, and 0.02 ppm. V. The sludge containing the catalyst (27 g.), is mixed with iodoform up to about 3.5% by weight of iodine in the mixture. The mixture in an autoclave was heated to 350°C. and pressured with H to 2000 psi. for 4 hrs. and cooled. Sludge resulting from this treatment was mixed with fresh charge after about 0.1% to 1.0% of solid catalyst particles were removed and the new catalyst added in equivalent amount. This mixture was heated to 250° to decompose the new catalyst, after which the suspension was ready for recycling.

ACCESSION NUMBER: 1967:87331 CAPLUS
DOCUMENT NUMBER: 66:87331
TITLE: Regenerative hydrotreating of hydrocarbon oils
INVENTOR(S): Gatsis, John G.
PATENT ASSIGNEE(S): Universal Oil Products Co.
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3249556		19660503	US	19630819

L28 ANSWER 190 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A process for hydrotreating an asphaltenic hydrocarbon stock containing organometallic compds. is described. The steps are: (a) heating the stock with H to a temperature below which thermal cracking of asphaltenes occurs; (b) passing the mixture through a bed of an adsorptive hydrogenation catalyst at 725-785°F. and at 500-5000 psig.; (c) when the catalyst accumulates unreacted asphaltenes, the flow of stock is stopped, the flow of H is continued, and the temperature is increased >785°F. to crack the asphaltenes; (d) when the asphaltenes are removed from the catalyst the temperature is decreased to <785°F. and the flow of charge stock is introduced while the H flow is continued; and (e) the reaction effluent is separated to provide a fraction free from asphaltenes and organometallic compds. Such compds. contain: Ni, V, or Fe; Cu, Pb, or Zn. Other contaminants contain H, S, and O. The catalytic composite may comprise 21 metals or compds. of metals from the group of V, Nb, Ta, Mo, W, Cr, Fe, Co, Na, Pt, Pd, Ir, Os, Rh, Ru, and mixts. therefrom.
ACCESSION NUMBER: 1967:78094 CAPLUS
DOCUMENT NUMBER: 66:78094
TITLE: Autoregeneration of hydrofining catalysts
INVENTOR(S): O'Hara, Mark J.; Gatsis, John G.
PATENT ASSIGNEE(S): Universal Oil Products Co.
SOURCE: U.S., 7 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3288704		19661129	US	19631226

L28 ANSWER 191 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB a high-activity sulfided nickel-molybdenum-alumina catalyst is charged to all reactors except the first one in order to increase feed throughput and to decrease the time between catalyst regeneration. A feed containing 30% olefins and 29% aromatics is charged to the first reactor at about 800 psig. and 575°F. Hydrogenation of olefins causes the outlet temperature to be increased to 701°F. The outlet material is heat exchanged with fresh feed to cool it to 625°F. before it enters the 2nd reactor containing the high-activity catalyst. The product leaves the 2nd reactor at 641°F. and is charged to the 3rd reactor where the temperature increases to 651°F. at the outlet. The catalysts deactivate only slowly at the low crav. temps. (after 4 months, the outlet temperature from the 3rd reactor was only 665°F.). The length of the run is more than twice that of previous runs even with higher throughput and lower product N specifications. The dew point of the naphtha-H mixture must be maintained below the lowest temperature at the hydrotreating pressure by monitoring the boiling range of the naphtha feed unless a greater ratio of H can be used.

ACCESSION NUMBER: 1967:39620 CAPLUS
 DOCUMENT NUMBER: 66:39620
 TITLE: Naphtha hydrofining catalyst
 INVENTOR(S): Blue, Emanuel M.
 PATENT ASSIGNEE(S): Chevron Research Co.
 SOURCE: U.S., 6 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3291723		19661213	US	19640625

L28 ANSWER 192 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A method for reactivating a hydrogenation catalyst while the reactor is maintained on stream, and without transporting the catalyst to a different vessel for regeneration, is described. A residual fuel is hydrogenated in a reaction zone with H plus a catalyst such as Co, Fe, Me, Ni, W, or Co2(MoO4)3 sufficient to provide 1 lb. of catalyst for a rate of up to 2 bbl. of oil-feed per day. After the activity of the catalyst has decreased due to normal usage, there is substituted for the residual oil-feed a catalytic cycle oil-feed together with H under hydrogenating conditions of temperature and pressure. When the catalyst is regenerated the residual oil-feed is again introduced and the catalytic oil-feed stopped. The catalyst bed is usually in the form of an expanded or ebullated bed. Cf. CA 55, 23954g.

ACCESSION NUMBER: 1966:498533 CAPLUS
 DOCUMENT NUMBER: 65:98533
 ORIGINAL REFERENCE NO.: 65:18397c-e
 TITLE: Regeneration of hydrogenation catalysts
 INVENTOR(S): Galbreath, Richmond B.
 PATENT ASSIGNEE(S): Cities Service Research and Development Co.
 SOURCE: 3 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3271301		19660906	US	19640203

L28 ANSWER 193 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB In the production of xylitol by hydrogenation of xylose on a skeletal Ni catalyst, the latter becomes inactivated and must be discharged from the reactor for regeneration. The existing method for discharging the catalyst is time-consuming and cumbersome. A new method, developed at the Chimkent hydrolysis plant, utilizes suction. The reaction column is connected by means of a system of tubes with a cyclone and a suction pump, which creates a partial vacuum (350-400 mm. Hg) in the system. In the cyclone, the catalyst granules are separated from the air, and are collected in a receiving vessel, from which they are directed into the regeneration equipment. The latter is a vibratory mill in which the inactivating film is mech. removed.

ACCESSION NUMBER: 1966:439707 CAPLUS
 DOCUMENT NUMBER: 65:39707
 ORIGINAL REFERENCE NO.: 65:7448g-h
 TITLE: Experimental production of xylitol
 AUTHOR(S): Nemanov, E. A.
 SOURCE: Gidrolizn. i Lesokhim. Prom. (1966), 19(4), 23
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 194 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The preparation and use of catalysts that can be regenerated after use in hydrocracking is described. Thus, a catalyst containing Ni8 on SiO2-Al2O3 was prepared by impregnating SiO2-Al2O3 particles with a solution of Ni nitrate in a concentration sufficient to provide 6 weight% Ni on a dry basis. The SiO2-Al2O3 particles contained 90% SiO2 and had a "Cat A" value (Hills, et al., CA 44, 6611f) >40 before being impregnated with the hydrogenating metal component. After impregnation and drying, the catalyst was thermally activated by contact for 2.2 hrs. with a stream of hot air at 1425°F. Then, the catalyst was sulfided and used for hydrocracking in a reactor for several thousand hrs. on a hydrocarbon feed stock having a total N content of 51 ppm. After hydrocracking, the catalyst was treated with enough 2.5M HNO3 to fill the pores, oxidized in dry air at 800°F. for 2 hrs. and at 1000°F. for 2 hrs., and thermally activated for 2 hrs. at 1400°F. in dry air. Then, the catalyst was sulfided at 600°F. with H2S and used to hydrocrack n-C10H22. A conversion of 25.0 mole % was obtained, as compared with 29.4 mole % for a freshly prepared catalyst.

ACCESSION NUMBER: 1966:437738 CAPLUS
 DOCUMENT NUMBER: 65:37738
 ORIGINAL REFERENCE NO.: 65:6977g-h, 6978a
 TITLE: Hydrocracking catalyst regeneration
 INVENTOR(S): Constabaris, George; Unverferth, Jack W.
 PATENT ASSIGNEE(S): Chevron Research Co.
 SOURCE: 6 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3256205		19660614	US	19630701

L28 ANSWER 195 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Hydrocarbons of the gas oil to heavy recycle oil boiling range of >316° are catalytically hydrocracked to give a 275 weight% yield of a b. 154-371° distillate. The product is obtained in a continuous cycle system by circulating 800-2135 l. H/1. starting hydrocarbon in the presence of a N compound containing 0.005-5.0 weight%, but preferably 0.1-1.0 weight% N based on the reacting hydrocarbon. The catalyst consists of an acid support impregnated with an oxide or sulfide of Ni, W, or Mo, or their mixts. and the reaction proceeds at 371-454° and 35-350 kg./cm.2 at a H feed rate of 0.1-10.0 vols./hr. relative to the liquid state. Inclusion of the N compound in the cracking process is essential to minimize the formation of distillates b. <154°, thereby providing 275 weight% yield of 154-371° distillates. The acid catalyst supports are various mixts. of SiO2, ZrO2, ThO2, Al2O3, and (or) MgO. The acidity of the support may be diminished by treatment with H2O or enhanced by treatment with halogens or halogen acids. The catalyst is treated with a S compound before or during the hydrocracking process to yield the metal sulfide. For example, a co-gel of 20% SiO2 and 80% Al2O3 (0.63-2.00 mm.) is impregnated with an aqueous solution of NH4 molybdate to give 12.2 weight% Mo based on the support. The product is dried for 6 hrs. at 103°, calcined overnight at 482°, then impregnated with an aqueous solution of Ni nitrate to give 4 weight% Ni. After drying for 2 hrs. at 103°, the product is calcined for 1 hr. at 593°, exposed to H at atmospheric pressure for several hrs. at 299°, then at 140 kg./cm.2 for 1.5 hrs. Finally, the catalyst is treated with n-hexane containing 5 weight% CS2 at 140 kg./cm.2 for 4-6 hrs.

ACCESSION NUMBER: 1966:437737 CAPLUS
 DOCUMENT NUMBER: 65:37737
 ORIGINAL REFERENCE NO.: 65:6977d-g
 TITLE: Hydrocracking heavy hydrocarbons to medium-boiling-range distillates
 INVENTOR(S): Myers, John W.; Lanning, William C.
 PATENT ASSIGNEE(S): Phillips Petroleum Co.
 SOURCE: 12 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 668580		19660221	BE	
FR 1441320			FR	
			US	19640928

PRIORITY APPLN. INFO.:

L28 ANSWER 197 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The resistance of Ti alloys to corrosion in the presence of Cl-containing amine in a H atmospheric (Treseeder and Miller, CA 45, 6985f; McQuillan, CA 45, 6033c) was exptl. investigated. A series of tests was carried out under the conditions of catalytic reduction of nitro-chlorobenzene to chloroaniline (USSR 166,037, CA 62, 10368c) at a H pressure of 200 kg./cm.2, <200°, and Cl- content in the catalyst zone of approx. 3 mol. %. A sample of 12Kh5MA steel under these conditions was decomposed in 9 hrs., the Cr-Ni-W steels were badly corroded after 90 hrs., while high-quality stainless steels lasted 253 hrs.; the resp. corrosion rates were 19.7, 2.2, and 0.15 g./m.2 hr. Four types of Ti material showed no corrosion after 100 hrs. In more prolonged tests over 1700 hrs. of the same reaction at 140° and 200 kg./cm.2 H pressure, practically no mech. changes were observed. Full details of these tests are tabulated. A study of the microstructure of a reactor wall made from VTl-1 Ti after 2 years under the conditions of the nitrochlorobenzene reduction showed the absence of Ti hydrides. At the Cl- concentration increased to >20 mol. % the same material was corroded in the area of previously made incisions after 5500 hrs. of exposure. An exptl. reactor was made from a 30KhMA steel, diameter 30 mm., height 1.5 m., having a 3-mm. thick VTl-1 sleeve, and the thermal zone, catalyst separating sieves, and other details made from Ti materials. The reactor was used under the above conditions for >3 years. To investigate the effect of the catalyst regeneration conditions, 3-mm. thick samples of the VTl-1 Ti were exposed to 15-hr. periods at 325-50 and 350-450° to the action of H at 200 kg./cm.2 pressure, followed by a temperature drop to 200°. In both cases hydrides of Ti were formed, and the Ti material was disintegrating.

ACCESSION NUMBER: 1966:402648 CAPLUS
 DOCUMENT NUMBER: 65:2648
 ORIGINAL REFERENCE NO.: 65:438d-f
 TITLE: The use of titanium for apparatus for chloroorganic synthesis in a hydrogen atmosphere
 AUTHOR(S): Antonovskaya, . E. I.; Pozdeeva, A. A.
 SOURCE: Khim. Prom. (1966), 42(4), 304-5
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 196 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The Ni-Al and cermet catalyst is regenerated by removing fat from its surface with a 10% solution of Na tripolyphosphate followed by leaching of the catalyst.

ACCESSION NUMBER: 1966:421920 CAPLUS
 DOCUMENT NUMBER: 65:21920
 ORIGINAL REFERENCE NO.: 65:4120b-c
 TITLE: Regeneration of stationary catalysts for hydrogenation of fats
 INVENTOR(S): Shlyakhov, V. I.; Klochko, N. D.; Sokol'skii, D. V.; Golodov, F. G.
 SOURCE From: Izobret., Prom. Obraztsy, Tovarnye Znaki 43(5), 15(1966)..
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 179280		19660208	SU	19650120

L28 ANSWER 198 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB A hydrocracking catalyst poisoned by NH3 was regenerated by heating it in an inert gas. Thus, 6 weight % NiS on a SiO2-Al2O3 support was poisoned by contact with NH3 so that its hydrocracking activity was essentially zero. By treating the catalyst with He at 1 atmospheric at 800°F., at a flow rate of 9400 vols. He per volume of catalyst per hr., full catalytic activity was regained in 2 hrs. At 900°F., 60% of the activity was restored in 40 min.

ACCESSION NUMBER: 1966:83695 CAPLUS
 DOCUMENT NUMBER: 64:83695
 ORIGINAL REFERENCE NO.: 64:15652g-h
 TITLE: Regeneration of catalysts poisoned with nitrogen compounds
 INVENTOR(S): Yamamoto, Sachio
 PATENT ASSIGNEE(S): Chevron Research Co.
 SOURCE: 2 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3211668		19651012	US	19630130

L28 ANSWER 199 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Title catalysts can be rejuvenated to a high percentage of their original activity, following an extended on-stream period of 1000-4000 hrs. under hydrocracking conditions, without repeating the thermoactivation, by a method which comprises contacting the deactivated catalyst before removal of the deposited carbonaceous material (I) with an aqueous (27M solution) of a weak organic acid capable of forming salts with the catalytic metal, preferably HOAc, for 1-7 hrs. at >100°F. and after converting the predominant portion of the metal to salts and without washing the salts from the treated catalyst, simultaneously decomposing the salts and removing I with a dry oxidizing gas at 800-1200°F. Thus, spent, thermoactivated Ni8 catalysts supported on silica-alumina, having metal crystallite sizes of 500-2000 Å., with I still on the surface, were treated with 29 cc. of aqueous 5-7.8M HOAc/100 g. of spent catalyst at 150°F. Without removing the aqueous solution, the catalysts were dried and then gradually heated in a dry air stream up to 1000-1200°F. for 2-17.5 hrs. Before testing, each catalyst was sulfided at 550°F. A 1-hr. treatment gave results superior to acid treatment for 17.5 hrs., but longer heat treatment at the final high temperature was preferable with the longer acid treatment. Comparative hydro-cracking tests showed that these catalysts had a 5-18% higher activity than that of air-regenerated catalysts.

ACCESSION NUMBER: 1966:74959 CAPLUS
 DOCUMENT NUMBER: 64:74959
 ORIGINAL REFERENCE NO.: 64:13999d-f
 TITLE: Rejuvenation of thermoactivated hydrocracking catalysts
 INVENTOR(S): Constabaris, George; Lindquist, Robert H.
 PATENT ASSIGNEE(S): Chevron Research Co.
 SOURCE: 6 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3235486		19660215	US	19630701

L28 ANSWER 201 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB The catalytic activity and total surface area of a brass catalyst for the production of Me2CO from iso-PrOH is increased by simultaneous application of ultrasonic energy and chemical treatment. The chemical agent consists of a solution (I) of H2O 51.6, H2SO4 4.0, HNO3 15.4, and Na dichromate 29.0 weight %.

A catalyst so treated has an average efficiency of >90% with an estimated life of 6 mos. or more (50%, 3 mos. by conventional treatment). For example, spent S-305 brass catalyst was first immersed for 10 min. in a preclean bath consisting of a 50% aqueous solution of I. The catalyst was then rinsed, drained, and immersed in a tank also containing a 50% solution of I. Ultrasonic energy of 20,000 cycles/sec. was applied for 10 min., the temperature of the bath being maintained at 75-85°F. The catalyst was then placed in a H2O rinse tank and subjected to ultrasonic energy as before. The average efficiency of the catalyst for Me2CO production was 82%, compared to 63% for a portion of the same spent catalyst regenerated by conventional methods, e.g., barrel tumbling. The process is applicable to other types of catalysts as well.

ACCESSION NUMBER: 1966:55829 CAPLUS
 DOCUMENT NUMBER: 64:55829
 ORIGINAL REFERENCE NO.: 64:10453a-b
 TITLE: Catalyst regeneration by ultrasonic and chemical treatment
 INVENTOR(S): Graves, Charles A.; Steiner, Donald F.; Hirdler, Fairbanks C.
 PATENT ASSIGNEE(S): Purex Corp., Ltd.
 SOURCE: 6 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3231513		19660125	US	19611204

L28 ANSWER 200 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Preheated to 90° a 10% aqueous-solution of Na triphosphosphate (Na5P3O10) was used instead of extraction ligroine for removal of fat from a fixed-bed catalyst prepared from a Ni-Al-Mo alloy. Degrees of reactivation were equal in both cases. The method is preferred for its explosion safety.

ACCESSION NUMBER: 1966:69094 CAPLUS
 DOCUMENT NUMBER: 64:69094
 ORIGINAL REFERENCE NO.: 64:12979h
 TITLE: Regeneration of stationary catalysts for hydrogenation of fats
 AUTHOR(S): Shlyakhov, V. I.; Sokol'skii, D. V.; Golodov, F. G.; Klochko, N. D.
 SOURCE: Maslozhirrovaya Promyshlennost (1966), 32(1), 15-16
 CODEN: MZPYAE; ISSN: 0025-4649
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L28 ANSWER 202 OF 258 CAPLUS COPYRIGHT 2004 ACS ON STN
 AB Hexafluoroantimonic acid (I) can be used for the isomerization of straight, slightly branched, or cyclic hydrocarbons. Gradual inactivation of the catalyst takes place as a result of formation of catalytically inert complex compds. These complexes are usually insol. in the hydrocarbon phase and accumulate in the catalyst phase. The spent catalyst is a brown, viscous, oily liquid, and is less viscous in solution in HF. At increased temps. and in presence of H, complete or practically complete decomposition of the I complexes into SbF3 and lower-mol.-weight hydrocarbons occurs in the presence of tetrafluoroboric acid (II) (0.01-1 mole per mole complex), which can be recovered practically completely after reaction. The complex is treated in the liquid phase diluted with 1-10 vols. HF per volume complex to reduce its viscosity. The II can be prepared in situ by passing in gaseous BF3. The hydrogenating decomposition is usually carried out at 50-150 atmospheric H pressure and 90-160° for 0.5-20 hrs. The hydrocarbon of the complex is broken down to C1-5 paraffins. The Sb forms SbF3, which settles as a white powder. When separated and washed, it is treated with Cl, giving SbF3.Cl2, and this with HF gives SbF5 and I with evolution of HCl. The H used need not be pure, and mixts. containing H may be taken; but the gas must be practically free from H2O and H2S. From 0.2 to 0.5 m.3 H/kg. of complex are consumed and 2-6 times the amount consumed should be present. Paraffinic complexes can be decomposed under milder conditions than ring structures. A continuous process is described. As I is extremely corrosive, special materials of construction are required, e.g. Pt and Al, or alloys of Pt and Au, Ni and Mo, Ni and W, or Al and Mg, synthetic materials, such as polytrifluorochloroethylene or polytetrafluoroethylene, as well as modified polymers. For example, a spent I catalyst used for isomerizing a C5-6 hydrocarbon oil fraction contained 50 parts HF and 17 parts hydrocarbon complex containing 6 parts Sb. Hydrogenation-decomposition tests were carried out at 95 and 150° for 5 and 20 hrs. with and without addition of II in a magnetically stirred reactor lined with Teflon at 100 atmospheric pressure. In the absence of II, the decomposition was very incomplete, but with 13 parts II formed in situ from BF3 + HF, 80% of the Sb was recovered at 95° and 100% after 20 hrs. at 150° as white powdered SbF3.

ACCESSION NUMBER: 1966:34773 CAPLUS
 DOCUMENT NUMBER: 64:34773
 ORIGINAL REFERENCE NO.: 64:6376c-g
 TITLE: Decomposition of complex compounds of hexafluoroantimonic acid and hydrocarbons formed in isomerizing hydrocarbons
 PATENT ASSIGNEE(S): Shell Internationale Research Maatschappij NV
 SOURCE: 13 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 301210		19650927	NL	19631202

AB Catalysts after long exposure to a hydrocarbon feed under hydrocracking conditions become deactivated and are difficult to regenerate. Such catalysts can be regenerated by contact with dry liquid S_2Cl_2 or SCl_2 at 100° F. up to the b.p. of the liquid for 51 hr. The catalyst is then calcined in a dry oxidizing atmospheric at 700-1600°F. for 21 hr. When a fresh catalyst of NiS on $\text{SiO}_2\text{-Al}_2\text{O}_3$ with a relative activity of 100 was compared to a regenerated catalyst treated as above at 1000°F. calcination temperature, the regenerated catalyst had an activity of 60; a nonregenerated batch had an activity of 5. These catalysts are composed of 21 Group VIII metal or compound on a high-surface-area support, and are used in the petroleum industry.

ACCESSION NUMBER: 1966:34759 CAPLUS
DOCUMENT NUMBER: 64:34759
ORIGINAL REFERENCE NO.: 64:6372h,6373a-b
TITLE: Reactivating catalysts
INVENTOR(S): McClellan, Aubrey L.
PATENT ASSIGNEE(S): California Research Corp.
SOURCE: 4 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3222271	----	19651207	US	19630730

AB The report summarized the work on tests for determining the reforming activity of catalysts in which H and CH_4 -steam mixts. were used in reduction methods, in the forms of Ni found in catalysts, catalyst regeneration, and equipment and procedures used in the redox tests.

ACCESSION NUMBER: 1966:7731 CAPLUS
DOCUMENT NUMBER: 64:7731
ORIGINAL REFERENCE NO.: 64:1393f
TITLE: Final report of the catalyst research task group
AUTHOR(S): Cundari, D. F.
CORPORATE SOURCE: Public Serv. Elec. & Gas Co., Harrison, NJ
SOURCE: Proc., Operating Sect., Am. Gas Assoc. (1965), 1965, 186-94
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The regeneration of a NiS catalyst which has become deactivated after long exposure to hydrocarbon feed under hydrocracking conditions is described. The procedure comprises removal of the accumulated carbonaceous deposits on the catalyst and oxidizing the hydrogenating metal component in a stepwise procedure and then reducing the metal oxide component with <3 mole % H in a mixture with N. Thus, 64 Ni on $\text{SiO}_2\text{-Al}_2\text{O}_3$ used in hydrocracking operations for several thousand hrs. on hydrocarbon feedstock with a total N content of <1 ppm.; 750°F. was necessary to maintain 60% hydrocarbon conversion. The catalyst was regenerated by contact with a mixture of N and air at 800-1000°F. for 24-80 hrs. The catalyst was then reduced in dry N containing 3% H under 26 in. Hg vacuum at a total gas rate of 6 vols./volume of catalyst/hr. The temperature was raised in increments of 150°F. from 400°F. to 900°F. over 8 hrs. The N content of the dry N-H mixture was raised to 6% and the catalyst was reduced for 1 hr. at 900°F. The catalyst was resulfided by adding to the circulating H iso-PrSH at a rate sufficient to give a 2% H_2S concentration in the H flowing through the reactor at 450°F. over several hrs. to convert Ni to NiS. The regenerated catalyst had an 80% relative activity as compared to fresh catalyst.

ACCESSION NUMBER: 1965:497106 CAPLUS
DOCUMENT NUMBER: 63:97106
ORIGINAL REFERENCE NO.: 63:17767d-f
TITLE: Regeneration of hydrocracking catalysts
INVENTOR(S): Unverferth, Jack W.
PATENT ASSIGNEE(S): California Research Corp.
SOURCE: 7 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3211642	----	19651012	US	19620116

L28 ANSWER 206 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Used **hydrogenation** catalysts are regenerated by digesting in HNO₃ and treating the washed precipitate with basic solns. to lower the residual
 S. Thus, 300 kg. of a used Ni-Al oxide catalyst containing 6.9% S and 4.7% organic matter was dissolved at 90° in 900 l. HNO₃ of d. 1.868. This solution was diluted to 1800 l. with distilled H₂O and now contained 77.2 g. Ni/l., 46.3 g. Al₂O₃/l., and 26.7 g. SO₃/l. The filter cake from this solution was stirred with 3000 l. of 15% Na₂CO₃ at 90°. The solution was filtered and the cake was given a secondary wash with 20 m.3 of a 0.8% Na₂CO₃ solution and finally washed with H₂O. After drying for 18 hrs. at 120°, the solid contained 33.8% Ni, 20.2% Al₂O₃, and 0.067% SO₃. This product was reduced in H₂ at 400° and 30 ml. was employed as a **hydrogenation** catalyst for a 50-50 phenol-cyclohexanol mixture at 140° at 1 atmospheric at a rate of 100 ml. of mixture/hr. and 200 l. H/hr. Ninety-six % of the phenol was converted to cyclohexanol. A comparison treatment, leaving out the step of washing with 0.8% Na₂CO₃ solution, yielded a catalyst containing 1.53% SO₃ and converted only 17% of the phenol in an identical **reduction** experiment. Substitution of 40 l. of 50% NaOH for 10 l. of the secondary carbonate wash step gave a catalyst which yielded a 96% phenol conversion. Substitution of 10 m3 of 1% NH₄OH for the secondary wash gave a catalyst which converted 97% of the phenol to cyclohexanol.
 ACCESSION NUMBER: 1965:493743 CAPLUS
 DOCUMENT NUMBER: 63:93743
 ORIGINAL REFERENCE NO.: 63:17207c-f
 TITLE: Regeneration of **nickel**-aluminum oxide catalysts
 INVENTOR(S): Blume, Hermann; Hattwig, Manfred; Naundorf, Werner
 SOURCE: 3 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 39114		19650515	DD	19640914

L28 ANSWER 208 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The addition of Cu, Pb, Ag, or Hg to a hydoreforming catalyst containing a Group V, VI, or, preferably, VIII metal on an acidic SiO₂-Al₂O₃ support increases its selectivity for isoparaffins from C₄-10 n-olefin feeds. Preferred catalysts contain .apprx.5% of Ni by weight and 1-20% of Hg, Ag, or Pb or 1-10% of Cu on a base of 100-500 m.2/g. cracking catalyst containing 10-30% Al₂O₃ by weight. Preferred conditions are 450-650°F., 51500 psig., and 1-10 vols./volume/hr. with an olefinic naphtha feed b. 20-350°F. containing a high proportion of C₅-6 normal olefins. The preferred catalyst regeneration procedure calls for **reduction** with H followed by oxidation with gas of low O content followed by air and final **reduction** with H, all at an unspecified high temperature. The initial **reduction** increases the number of times that the catalyst can be satisfactorily regenerated. Thus, a com. cracking catalyst containing 75% SiO₂ and 25% Al₂O₃ by weight was soaked in an aqueous Ni acetate solution, dried at 400°F., calcined at 1000°F., and reduced under H at 700°F., yielding a product (I) containing 5% Ni by weight. Other catalysts were then prepared by soaking I in aqueous solns. of the appropriate metal nitrate, and drying, calcining, and reducing as before. These catalysts were then used in the hydroforming of n-2-pentene at 574-90°F., 1000 psig., 10 moles of H/mole of feed, and 8.7-10 vols./volume/hr., with the results shown in the table. Alternative catalysts containing 0.1-1% of P by weight instead of Ni are referred to, without examples of their preparation or performance. Catalyst, (% by weight), Volume %, saturates in, the product, Iso-/n-, pentane, mole ratio, selectivity for, isopentane: I, 100, 1.3, 1.0; I + 1% Hg, 100, 2.3, 1.7; I + 17.1% Hg, 94.8, 8.8, 6.7; I + 1% Pb, 100, 5.0, 3.7; I + 17.6% Pb, 16.3, 4.6, 6.2; I + 1% Cu, 9.6, 3.0, 2.3; I + 5.4% Cu, 90.6, 7.0, 5.3; I + 9.2% Ag, 100, 5.5, 4.0.
 ACCESSION NUMBER: 1965:409462 CAPLUS
 DOCUMENT NUMBER: 63:9462
 ORIGINAL REFERENCE NO.: 63:1640c-f
 TITLE: Hydoreforming catalysts
 INVENTOR(S): Brennan, Harry M.; Coley, John R.; Frye, Clifton G.; Gutberlet, Louis C.
 PATENT ASSIGNEE(S): Standard Oil Co.
 SOURCE: 4 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3182097		19650504	US	19610531

L28 ANSWER 207 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The catalysts are prepared or poisoned catalysts are reactivated by bacterial action. The bacterial culture can flow through a fixed bed of the raw material or of the poisoned catalyst continuously or discontinuously. After this treatment the material can be heated (e.g. to 500°) to stabilize the structure without endangering its activity. Examples of bacteria which can be used are: sulfate-reducing bacteria (e.g. Desulfovibrio desulfuricans), sulfide-oxidizing bacteria (e.g. Thiobacillus thiooxidans), and Fe-oxidizing bacteria (e.g. Ferrobacillus ferrooxidans). Bauxite can be activated by Fe-oxidizing bacteria. Fe(OH)₃ is formed and washed away, thus increasing the Al₂O₃ content. The same result is obtained by sulfide-oxidizing bacteria. Fe₂(SO₄)₃ is formed and washed away. When the raw material contains a sulfate, sulfate-reducing bacteria form sulfide, which is hydrolyzed to the hydroxide. In the same way, catalysts containing NiS, Al₂O₃, CoS, MnS, Fe₂S₃, V₂S₃, Mo₂S₃, NiO, CoO, Mo₂O₃, Fe₂O₃, and Fe₃O₄ can be produced. When a mixture of Ni(NO₃)₂ and NiSO₄ is treated, a mixture of NiO and NiS is formed. This mixture is reduced with a reducing gas, forming **nickel** subsulfide.
 ACCESSION NUMBER: 1965:435655 CAPLUS
 DOCUMENT NUMBER: 63:35655
 ORIGINAL REFERENCE NO.: 63:6370h, 6371a-b
 TITLE: Preparing and reactivating catalysts
 PATENT ASSIGNEE(S): Simon-Carves Ltd.
 SOURCE: 25 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6411131		19650326	NL	
PRIORITY APPLN. INFO.:			GB	19630925

L28 ANSWER 209 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A **hydrogenation** catalyst of Ni on kieselguhr needs to be regenerated when the Ni has been converted to NiS. Conventional regeneration is oxidation with air followed by **reduction** with H. Halogen regeneration with Cl or Br is a 3-step process. Cl is added at 650°F. at 0.5 lb./lb. of catalyst/hr., for 2 hrs., followed by a N purge to strip out residual S₂Cl₂; then at 700°F. air is added for 4 hrs. at 20 ft.3/lb. of catalyst/hr., followed by a N purge; and then the Ni is reduced at 700°F. for 4-8 hrs. with 30 ft.3 of H/lb. of catalyst/hr. Pressure may be 1-20 atmospheric
 ACCESSION NUMBER: 1965:78470 CAPLUS
 DOCUMENT NUMBER: 62:78470
 ORIGINAL REFERENCE NO.: 62:13903a-b
 TITLE: Regeneration of spent **nickel** catalyst
 INVENTOR(S): Brooke, Jesse M.
 PATENT ASSIGNEE(S): Phillips Petroleum Co.
 SOURCE: 2 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3172863		19650309	US	19610828

L28 ANSWER 210 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Laboratory apparatus for studying the catalytic reduction of CO with H
was designed, fabricated, and operated. Three different Ni-containing
catalysts were evaluated. In addition, the effects on catalyst activity
were determined of several impurities in the reactant gas, and of the
feasibility of achieving the reduction reaction without catalyst. Virtually quant.
reduction of CO with H was obtained by using Catalyst C-0765-1001
under these conditions: H2/CO mole ratio, 3:1; space velocity, 1000
hr.-1; catalyst bed temperature, 250°; and catalyst bed pressure, 6.1
atmospheric
ACCESSION NUMBER: 1965-78415 CAPLUS
DOCUMENT NUMBER: 62:78415
ORIGINAL REFERENCE NO.: 62:13893a-c
TITLE: Catalytic reduction of carbon monoxide with
hydrogen
AUTHOR(S): Rosenberg, S. D.; Guter, G. A.; Miller, F. E.;
Jameson, G. R.
CORPORATE SOURCE: Aerojet-Gen. Corp., Azusa, CA
SOURCE: (1964), NASA Accession No. N64-25603, Rept. No.
NASA-CR-57, 69 pp. Avail.: OTS
From: Sci. Tech. Aerospace Rept. 2(17), 2224(1964).
DOCUMENT TYPE: Report
LANGUAGE: English

L28 ANSWER 211 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB In the catalytic process, a petroleum distillate and H are passed at
500-850°F. and 600-3000 psig. through an isomerization cracking
zone. The effluent is freed of a H-rich recycle stream, which is then
returned with make-up H to the reaction zone. This process is modified
by removing NH3 from the recycle gas and operating below 750°F. during
most of the on-stream time: 5-20 lb. of H2O/bbl. of feed is added to the
recycle stream which is then cooled and the aqueous NH3 is separated
Feedstocks may contain 200-500 p.p.m. N (preferably <200 ppm.). The catalyst
consists of Group VI or VIII metals including oxides or sulfides of Mo,
Fe, Ni or Cr. In one example, by operating at 1200 psig.,
775° F., and an hourly liquid space velocity of 2 on a catalyst of
0.3% Pt on SiO2-AlO3, the increase in gasoline yield per pass conversion
was 53%. The feed contained 100 ppm. N. Cf. CA 54, 25751g.
ACCESSION NUMBER: 1965:29040 CAPLUS
DOCUMENT NUMBER: 62:29040
ORIGINAL REFERENCE NO.: 62:5124c-e
TITLE: Catalytic upgrading of nitrogen-containing petroleum
distillates
INVENTOR(S): Scott, John W., Jr.; Stanton, Lyman S.; Mason, Harold
F.
PATENT ASSIGNEE(S): California Research Corp.
SOURCE: 5 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3157590		19641117	US	19620511

L28 ANSWER 212 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The C and S deposits after prolonged use of catalysts are burned off by a
controlled method. The method is not only applicable to catalysts
containing 4-25% Mo and 1-6% Ni on Al2O3/SiO2 carriers, but also to W, Cr,
Fe, Co, Pt, or Pd on ThO2, B2O3, ZrO2, MgO, or SiO. A regenerating gas
containing 0.5-1.5% O is circulated through the catalyst bed at 371°
for 3 days at 6 atmospheric at a rate of 120 m.3/hr., m.3 catalyst. The
combustion wave raises the temperature <111°. The SO2+SO3 content of the
circulating gas is kept low by passing through a solution of NaOH,
Na2CO3, or KOH at pH 8. The O concentration is kept constant by addition of air.
H2O vapor (up to 20%) is not detrimental for restoring catalyst activity by this
method.
A 2nd combustion wave, also raising the temperature <111°, is induced by
increasing the temperature to 371-454° for 2 days. The temperature is
finally raised to 566°. After 8 hrs., the O concentration is increased to 4% for
8 hrs. The reactivity measured as the ratio of the space velocity for
the regenerated catalyst to that of a standard catalyst, required to leave
only 2 ppm. basic N in the feed, is 85%.
ACCESSION NUMBER: 1965:8459 CAPLUS
DOCUMENT NUMBER: 62:8459
ORIGINAL REFERENCE NO.: 62:1497b-d
TITLE: Regeneration of hydrorefining and hydrocracking
catalysts
PATENT ASSIGNEE(S): Universal Oil Products Co.
SOURCE: 13 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 6400750		19640803	NL	
PRIORITY APPLN. INFO.:			US	19630131

L28 ANSWER 213 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB During catalytic cracking of hydrocarbons containing Ni, Fe, and
(or) V as impurities, the impurities deposit on the catalyst and reduce
its efficiency. The poisoned catalyst is regenerated by continuously
bleeding a small portion of the catalyst, treating it with the
sulfidizing agent (such as H2S, CS2, or a mercaptan) at 800-1500°F., then
treating it with a vapor which is a mixture of 5-10 parts of a
chlorinating agent consisting of either HCl or Cl or their mixture and 1 part of a
promoter (a Cl-containing compound of C and S, such as CCl4 or S2Cl2) at
700-1000°F. and 0-100 psig. The chlorinator effluent containing excess
chlorinating vapor and chlorides of V and Fe is washed with H2O. The
catalyst is also washed with H2O to remove chlorides of Ni.
Both washings are acidic. The reformed gasoline also is washed with NaOH
solution of pH 12 to remove compds. such as phenols and H2S. These
washings are alkaline and are neutralized with the acidic washings before
disposal.
ACCESSION NUMBER: 1965:8458 CAPLUS
DOCUMENT NUMBER: 62:8458
ORIGINAL REFERENCE NO.: 62:1497a-b
TITLE: Cracking catalyst demetallization effluent treatment
INVENTOR(S): Smith, Kenneth A.; Watson, William B.
PATENT ASSIGNEE(S): Sinclair Research, Inc.
SOURCE: 7 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3150074		19640922	US	19601128

L28 ANSWER 214 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB High-metal-content Ni-Mo-Al2O3 hydrofining catalyst is made containing 20.5% Mo and 6.4% Ni on an Al2O3 support and is brought to 15% S at 450°F. Fresh catalyst reduces 775 p.p.m. N in a light cycle oil to 0.7 p.p.m. at 645°F., 800 lb./in.2 gage, liquid hourly space velocity, and 4000 ft.s H/bbl. Aged catalyst becomes coked and reduces the N to only 12 p.p.m. at 700°F. or to 0.7 p.p.m. at 750°F. Steam-air regeneration up to 800°F. did not restore the activity completely. Reduction to <0.1 p.p.m. N at 645°F. is possible with aged catalyst which has been regenerated with 0.6 volume % O in N at 530°F., gradually increasing to 5 volume % O at 800°F., and followed by cooling plus resulfiding by using H containing 1% Me2S. H2O at 0.6 volume % in the O-N regeneration gas results in the highest restored activity. Catalyst activity is not affected by the regeneration procedure unless previously coked, but coked catalyst can be regenerated at least 3 times before any permanent deactivation sets in.

ACCESSION NUMBER: 1964:447016 CAPLUS
 DOCUMENT NUMBER: 61:47016
 ORIGINAL REFERENCE NO.: 61:8110a-b
 TITLE: Activation of deactivated hydrodenitrication catalysts
 PATENT ASSIGNEE(S): California Research Corp.
 SOURCE: 8 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 962778		19640701	GB	
US 3172864		1965	US	
US 3211669		1965	US	

PRIORITY APPLN. INFO.: US 19610921

L28 ANSWER 216 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Hydrocarbon distillates, b. ≤1050°F. and of high N content, are hydrocracked in the presence of H and a catalyst consisting of a hydrogenating-dehydrogenating component arranged on a solid, active acidic support to produce products boiling below the initial b.p. of the feed. The process has long on-stream periods without need for catalyst regeneration to produce the desired products with substantial consumption of H, feed denitrication, and at <775°F. and 1500-3000 lb./in.2 A light cycle oil comprising a blend of 19.9% raw cycle oil, 41.9% hydrofined cycle oil, and 46.6% recycle bottoms containing 60 p.p.m. of N was hydrocracked and concurrently denitrified over a Ni sulfide catalyst on a solid SiO2-active Al2O3, acid cracking support, accompanied by 6500 ft.3 of H/bbl. of feed. The catalyst immediately after being placed on stream was rapidly titrated with NH3 derived from the N content of the cycle feed oil at 400-750°F., 1800 lb./in.2 gage, and a liquid hourly space velocity of 0.5. After such rapid equilibration of the catalyst with NH3, the temperature necessary to maintain a 50% conversion of the feed to products boiling below the initial b.p. of the feed abruptly leveled off at approx. 730°F. The hydrogenation-dehydrogenation was effective for approx. 800 hrs. without raising the operating temperature >0.033°F./hr. To obtain a 60% conversion, it was necessary to raise the operating temperature at a greater rate, but the operation could be continued for almost 1000 addnl. hrs. without raising the temperature more rapidly than 0.073°F./hr. During the 50% conversion period, the average temperature was 730°F. and during the 60% conversion period, it was 790°F. The total length of the run before prohibitive catalyst fouling took place was approx. 2000 hrs.

ACCESSION NUMBER: 1964:59949 CAPLUS
 DOCUMENT NUMBER: 60:59949
 ORIGINAL REFERENCE NO.: 60:10451d-f
 TITLE: Hydrocracking of nitrogen-containing distillates
 INVENTOR(S): Scott, John W.; Mason, Harold F.
 PATENT ASSIGNEE(S): California Research Corp.
 SOURCE: 3 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3117075		19640107	US	19610328
GB 992264			GB	

L28 ANSWER 215 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The Ni is derived from the formate rather than the nitrate. A 10% Ni on sepiolite derived from Ni formate was activated by treatment in a H atmospheric at 1000 vols. of H/volume catalyst/hr. for 1 hr. at 250°. The catalyst was then oxidized with air or O and sulfurized with thiophene. Subsequent reaction with a 10% isoprene mixture in n-heptane at 100° and atmospheric pressure indicated 100% saturation. Catalyst regeneration is accomplished by treating with O and then with hydrogen at 100°.

ACCESSION NUMBER: 1964:86880 CAPLUS
 DOCUMENT NUMBER: 60:86880
 ORIGINAL REFERENCE NO.: 60:15195e-f
 TITLE: Improvements (in the manufacture of nickel catalysts) to catalysts and the reactors containing these catalysts
 INVENTOR(S): Holmes, Peter D.; H.Bourne, Kenneth
 PATENT ASSIGNEE(S): British Petroleum Co. Ltd.
 SOURCE: 14 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 629089		19630701	BE	
GB 1009590			GB	
PRIORITY APPLN. INFO.:			GB	19620302

L28 ANSWER 217 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The formation of C deposits on the catalyst is prevented and yield improved if a mixture of steam and O or air is passed continuously through a dehydrogenation catalyst, preferably Ni or Ca phosphate at 550-700° and atmospheric pressure, the hydrocarbon being admitted intermittently so that the periods of dehydrogenation and regeneration are 30-300 sec. each. The preferred proportions are 1-4 parts of O and 150-250 parts of steam per 10 parts by volume of hydrocarbon, and the process is particularly suitable for C4-8 hydrocarbons. Thus a mixture of 645 ml. 1-butene and 9.3 g. steam/min. was passed through 500 g. Ni-Ca phosphate-Cr2O3 catalyst at 602° initial and 582° final temperature, followed by 15 min. regeneration with steam and O before the next 15 min. dehydrogenation period. The yield of 1,3-butadiene was 36% with about 91.7% selectivity. The use of a continuous stream of the same butene-steam mixture as before plus 1 volume of O/volume of butene at 602°, with the butene shut off for 1 min. in each 2 min. gave 43% yield with 90.4% selectivity. An increase of temperature to 670° improved the yield to 57%, with a reduction in selectivity to 83%, and shutting off the O during the dehydrogenation period reduced the yield by 4-5% over the temperature range. Qual. similar results were obtained for the dehydrogenation of 2-methyl-2-butene to isoprene.

ACCESSION NUMBER: 1964:52311 CAPLUS
 DOCUMENT NUMBER: 60:52311
 ORIGINAL REFERENCE NO.: 60:9145g-h,9146a
 TITLE: Catalytic dehydrogenation
 INVENTOR(S): Alexander, Douglas S.; Firko, John
 PATENT ASSIGNEE(S): Polymer Corp. Ltd.
 SOURCE: 24 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BE 626512		19630415	BE	
FR 1351509			FR	
GB 976913			GB	
PRIORITY APPLN. INFO.:			CA	19620106

L28 ANSWER 218 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A Ni (9.1 weight %) on-Al₂O₃ hydrogenation catalyst is used for 2600 hours in the com. H treatment of steam-cracker gasoline. During this time, the temperature is gradually raised from 111° to 204° to maintain catalyst activity. The activity can be restored to the 143° level after a 4-hr. H treatment at 250° 1 atmospheric, and H space velocity 100. An extra 700 hrs. of operating life is achieved before the 204° level is again reached. A total production of 17.4 bbl. of feedstock/lb. of catalyst is obtained. Similarly Ni on sepiolite has its life extended from 4934 hrs. to ≥6200 hours for a total production of 51 bbl./lb. of catalyst.

ACCESSION NUMBER: 1964:38031 CAPLUS
 DOCUMENT NUMBER: 60:38031
 ORIGINAL REFERENCE NO.: 60:6684a-b
 TITLE: Reactivation of gasoline-hydrogenation catalysts
 INVENTOR(S): White, Peter T.; Olive, Martin F.
 PATENT ASSIGNEE(S): British Petroleum Co. Ltd.
 SOURCE: 3 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3113097		19631203	US	19601010

L28 ANSWER 219 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Ni catalyst used for the hydrogenation of oils is extracted from the spent mixts. by means of 10-20% HNO₃. The resulting Ni(NO₃)₂ is converted into NiCO₃ by the addition of Na₂CO₃. Humid NiCO₃ is heated to 85-90° and treated with HCOOH to obtain Ni formate from which a new catalyst is obtained by thermal decomposition in oil. The activity of this regenerated catalyst is satisfactory. Com.-scale expts. led to regeneration of >95% Ni from spent catalysts.

ACCESSION NUMBER: 1964:2379 CAPLUS
 DOCUMENT NUMBER: 60:2379
 ORIGINAL REFERENCE NO.: 60:347e-f
 TITLE: Regeneration of a nickel catalyst
 AUTHOR(S): Malinowski, Stanislaw
 CORPORATE SOURCE: Zakl. Przemyslu Tluszczowego, Gdansk, Pol.
 SOURCE: Tluszcz i Srodki Piorace (1962), 6(5), 202-9
 CODEN: TSRPAP; ISSN: 0495-6672
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

L28 ANSWER 220 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Approx. 90% of the original activity can be restored by lowering the content of As by extraction or heating the catalyst in H or H₂S as usual and then adjusting the atomic ratio between Ni and As to 3-6:1. The content of Ni must be at least 1.5-2.5% higher than the rest of As. Concentration of the used solns. must be sufficiently high to introduce after a single treatment such an amount of Ni into the catalyst as requires the given ratio. The same goes for other active components, especially Co.

ACCESSION NUMBER: 1963:458811 CAPLUS
 DOCUMENT NUMBER: 59:58811
 ORIGINAL REFERENCE NO.: 59:10798e-f
 TITLE: Reactivating arsenic-deactivated hydrogenation catalyst containing oxides or sulfides of metals of Groups VI and VIII
 INVENTOR(S): Svajgl, Oldrich; Jiricek, Bedrich
 SOURCE: 3 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 103673		19620515	CS	19610214

L28 ANSWER 221 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Straight-run gas oil is extracted by silica gel beds to remove aromatics. This follows alternate adsorption-desorption phases in which the aromatics are adsorbed on the silica and desorbed by an effluent, such as a C₆H₆-pentane mixture. The aromatics must be completely removed prior to hydrocracking with AlBr₃-HBr catalyst. The straight-run gas oil, free of aromatics, is mixed with 30-50 weight % of C₇-9 naphthene diluent. The mixed hydrocarbons are hydrocracked under 25-500 lb./sq. in. partial pressure of H in contact with AlBr₃ in the presence of HBr at 25-75°C. The residence time in the reactor zone is regulated so that the major portion of the feed is cracked. The hydrocarbons are stripped of HBr and fractionally distilled to give an isobutane fraction, a C₅-7 paraffin fraction, a heavy gasoline fraction, the naphthene diluent fraction in the C₇-9 range, and the higher-mol.-weight hydrocarbons mixed with AlBr₃ as the residue. The naphthene diluent fraction and the residual hydrocarbon-AlBr₃ mixture are recycled into the reaction zone along with the stripped HBr and mixed with fresh feed stock. The extracted aromatics are mixed with catalytic gas oil and fuel oil and hydrocracked in the presence of a siliceous-type catalyst mixed with NiS, CoS, or Cr₂S₃ as a hydrogenation-type catalyst in contact with H at a partial pressure of 500-5000 lb./sq. in. The hydrocracking temperature is 350-1050°F. The H is separated from the hydrocracking product, and fractional distillation gives a C₄ or lighter fraction, a gasoline fraction, and a residuum which may be recycled. The high-octane gasoline is a blend of the aromatic-catalytic gas oil-hydrocracked gasoline with the C₅-7 paraffins and the heavy gasoline fraction from the AlBr₃-HBr hydrocracking. Almost all of the feed is convertible to gasoline.

ACCESSION NUMBER: 1963:80499 CAPLUS
 DOCUMENT NUMBER: 58:80499
 ORIGINAL REFERENCE NO.: 58:13687c-f
 TITLE: Gas-oil hydrocracking process to produce a high-octane gasoline
 INVENTOR(S): Mertes, Thomas S.
 PATENT ASSIGNEE(S): Sun Oil Co.
 SOURCE: 4 pp.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3080311		19630305	US	19600915

L28 ANSWER 222 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Used Raney Ni from anthraquinone-H2O2 process is treated with an alc. solution of an organic acid 1-3 hrs. in an inert or H atmospheric, then washed with alc. Thus, 50 g. exhausted catalyst was added to a solution containing 140 ml. MeOH, 60 ml. ACOH, and 20 ml. H2O, agitated 1 hr. at 25° in a N atmospheric, then separated from liquid and washed with MeOH. This procedure reduces tendency of catalyst to form tetrahydroquinones by excessive hydrogenation.

ACCESSION NUMBER: 1962:414386 CAPLUS
DOCUMENT NUMBER: 57:14386
ORIGINAL REFERENCE NO.: 57:2906b-c
TITLE: Regeneration of Raney-nickel catalyst
INVENTOR(S): Hauschild, Ulrich; Nicolaus, Horst
PATENT ASSIGNEE(S): Kali-Chemie A.-G.
SOURCE: 3 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1120432		19611228	DE	19600805
US 3165478		1965	US	

L28 ANSWER 224 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Sulfided Ni catalyst from desulfurizing-hydrofining operations is melted and cast into anodes. The anodes, in cotton-fabric diaphragms, are electrolyzed by using NaCl solution as the electrolyte, a Ni cathode, and a c.d. of 9-13 amp./sq. ft. S collects in the diaphragm bags while Ni hydroxide ppts. in the electrolyte. The precipitate is separated from the electrolyte, washed, and converted to catalyst, e.g., by reduction with H (obtained from the cathode).

ACCESSION NUMBER: 1962:52423 CAPLUS
DOCUMENT NUMBER: 56:52423
ORIGINAL REFERENCE NO.: 56:9883f-g
TITLE: Regeneration of nickel hydrofining catalysts
INVENTOR(S): Gwynn, Marion Hayes
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3019181		19620130	US	19590205

L28 ANSWER 223 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A continuous process and apparatus are described for the manufacture of high-purity H by the catalytic reduction of steam in a fluidized bed of particles of a metal or metal oxide of the Fe group. The improvement consists in regeneration of the oxidized metal-steam catalyst by sep. treatment with a reducing gas mixture (mainly H and CO) prepared by reaction of hydrocarbons with steam in the presence of another catalyst of the Fe group. In an example given, the catalyst is 20% Fe on a SiO2-Al2O3 base, the hydrocarbons are natural gas containing mostly CH4, and the catalyst for preparation of reducing gas is Ni on SiO2-Al2O3. In the H-generation zone, steam is reduced in a countercurrent bed of an Fe catalyst, the H is collected, and the oxidized Fe catalyst is cycled to a reducing zone, where it is regenerated in a fluidized bed through which the reducing-gas mixture is passed. The Fe catalyst is recycled to the 1st zone and the exit gases are partly recycled and partly mixed with air to form a combustible gas mixture. In a reaction zone, natural gas and steam are heated in a countercurrent fluidized bed of Ni catalyst to produce the reducing gas mixture for the 2nd zone and a C-laden catalyst. The latter catalyst is fed to a heating zone, where the C is burned off by the mixture of air and combustible gases from the reducing zone. The regenerated, heated Ni catalyst is recycled to the reaction zone.

ACCESSION NUMBER: 1962:78026 CAPLUS
DOCUMENT NUMBER: 56:78026
ORIGINAL REFERENCE NO.: 56:15152h-1,15153a-b
TITLE: Steam-iron process for manufacturing high-purity hydrogen
INVENTOR(S): Watkins, Charles H.
PATENT ASSIGNEE(S): Universal Oil Products Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3027238		19620327	US	19591207

L28 ANSWER 225 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The metal ion of the carrier and that of the active addition should have the same diameter. The mixture of their precipitated hydroxides is converted by CO2 under heat (100-200°) and pressure (10-100 atmospheric) to carbonate crystals, which are then decomposed with H. Thus, 50% of the precipitate from 42.15 g. NiSO4.7H2O and 24 g. MgO in 900 ml. H2O was treated for 15 hrs. at 150° with CO2 under 80 atmospheric. The product contained 17.4% Ni, 18.8% Mg, and 12.68% (calculated 12.82%) C. A portion containing 100 mg. Ni was treated with 20 l./hr. of H during 2.5 hrs. at 400°. This catalyst reduced 5 ml. cyclohexene at room temperature in 9 min.: the corresponding one without the CO2 treatment took 36 min. For a Co catalyst, the difference was still greater. A catalyst from Cu(NO3)2 and CaO used for the reduction of PhNO2 at 270° and 30 ml./hr. yielded 90% PhNH2 as compared to 27% with the untreated catalyst.

ACCESSION NUMBER: 1961:133182 CAPLUS
DOCUMENT NUMBER: 55:133182
ORIGINAL REFERENCE NO.: 55:25094b-d
TITLE: Activation of mixed catalysts
INVENTOR(S): Iagenbeck, Wolfgang; Welker, Jurgen; Dreyer, Hans; Nehring, Dietwart; Mahrwald, Richard
PATENT ASSIGNEE(S): VEB Leuna-Werke "Walter Ulbricht"
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1096878		19610112	DE	

L28 ANSWER 226 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A process is described for regenerating a SiO₂-Al₂O₃ catalyst support containing 2-8% by weight of Ni which has been activated by reduction, oxidation, and final reduction with pure H₂. The regeneration process comprises purging the reaction zone with an inert gas free of H₂O, CO, and H₂S at about 600-700°F. and 0-15 lb./sq. in. gage to strip the catalyst of hydrocarbons. Next, an O-containing gas is brought into contact with the catalyst at 800-1000°F. until the reaction ceases. The catalyst is again purged with dry inert gas at 975-1050°F. until dehydration is complete. Then the oxidized catalyst is reduced with a H-containing gas at 700-75°F. until the reduction is complete and all by-product water is removed. The regenerated catalyst has about the same efficiency as the original product. Minor alterations from the above conditions are also claimed. Cf. U.S. 2,917,565 (see Brit. 787, 904, CA 52, 10141b); U.S. 2,917,566 (see Brit. 814,708, CA 54, 299b).
ACCESSION NUMBER: 1961:56648 CAPLUS
DOCUMENT NUMBER: 55:56648
ORIGINAL REFERENCE NO.: 55:10865b-d
TITLE: Regeneration of isomerization catalysts
INVENTOR(S): Carr, Norman L.; Brozowski, Vincent
PATENT ASSIGNEE(S): Pure Oil Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2968631		19610117	US	

L28 ANSWER 227 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The Ni oxide-on-kieselguhr catalyst used in hydrofining wax was reactivated without plant shutdown. By raising the usual reaction temperature of 450-600 to 650-700° F. for 6 hrs. at 2-week intervals, the life of the catalyst was greatly extended. The wax processed before and after treatment of the catalyst showed a 46 and 86%, resp., reduction in absolute color units with 6.2 and 12.2% reduction in optical d. at 330 mμ.
ACCESSION NUMBER: 1961:45726 CAPLUS
DOCUMENT NUMBER: 55:45726
ORIGINAL REFERENCE NO.: 55:8843c-d
TITLE: Hydrofining of wax
PATENT ASSIGNEE(S): Esso Research and Engineering Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 851969		19601019	GB	

L28 ANSWER 228 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A process for the continuous production of piperidine (I) by hydrogenation of pyridine (II) with Ni as the catalyst was discussed. As Ni reacted with pyridine and thus lost its catalytic activity, bases were added to free Ni from the compound. The catalyst contained 47% Ni, 52% Al, and 4% Fe. The base solution was mixed with II and placed in an autoclave where II was hydrogenated at 160° and 50 atmospheric. Better results were obtained by using NaOH as base instead of Na₂CO₃. Different expts. with various amts. of base solution, variations in the catalyst, temps., and H pressures were discussed. Some side reactions were noticed, such as the formation of pyrrole and picoline. This could be avoided by hydrogenating under best conditions in 2 phases. In the 1st phase, II was hydrogenated to 65-8% and in the 2nd phase to 92-100%. The yield was 91% in respect to II. The catalyst did not show any loss in activity after 720 hrs. reaction or 4000 hrs. in the I-II mixture
ACCESSION NUMBER: 1960:128940 CAPLUS
DOCUMENT NUMBER: 54:128940
ORIGINAL REFERENCE NO.: 54:24707c-e
TITLE: A continuous process for the production of piperidine by catalytic hydrogenation of pyridine
AUTHOR(S): Sultanov, A. S.; Vasil'eva, N. V.; Safaev, A. S.
SOURCE: Uzbekskii Khimicheskii Zhurnal (1960), (No. 1), 81-7
CODEN: UZKZAC
DOCUMENT TYPE: Journal
LANGUAGE: Russian

L28 ANSWER 229 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Pure Ni from reduction of Ni salts loses its activity owing to absorption of cyclohexane and may be regenerated by passage of H over the Ni for 3 or more hrs. at the hydrogenation temperature (120-230°), by storing the Ni in a H atmospheric at room temperature for 3-4 hrs. or more, by passing Ar or N over the Ni at 184°, or by storing the Ni under a N or other inert gas atmospheric at room temperature
ACCESSION NUMBER: 1960:124194 CAPLUS
DOCUMENT NUMBER: 54:124194
ORIGINAL REFERENCE NO.: 54:23671d-e
TITLE: Metallic nickel and nickel on aluminum oxide as hydrogenation catalysts. I. The particular reversible change of activity of metallic nickel catalysts during hydrogenation of benzene
AUTHOR(S): Alchudzhn, A. A.
CORPORATE SOURCE: K. Marx Polytech. Inst., Erevan
SOURCE: Izvest. Akad. Nauk Armyan. S.S.R., Khim. Nauki (1959), 12, 377-88
DOCUMENT TYPE: Journal
LANGUAGE: Russian

L28 ANSWER 230 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Regeneration of spent Ni catalysts for the hydrogenation of glucose to sorbitol was investigated. The spent catalyst could be regenerated by boiling in 20% NaOH for 1 hr. followed by washing and H2 treatment at 100° and 70-80 atmospheric; repeated similar treatments damaged the catalyst structure. A catalyst containing Ni 46, Al 52, and Cr 2% was freshly prepared and was used for repeated hydrogenations of 16% glucose solution (pH 7.5-8) at 100° and 60 atmospheric. It was regenerated after 17 initial and 7, 6, and 5 consecutive runs of 1-hr. duration by H2 treatment in EtOH at 100-20° and 70 atmospheric for 1 hr., but after the third regeneration and the 5 runs a treatment with 10% NaOH was necessary to remove the polymer film from the catalyst surface. Two other catalysts also were prepared and studied.
The Ni-Al-Ti one was slightly more active than the Ni-Al-Cr catalyst and was successfully regenerated (10 g. catalyst) with H2 in 25 ml. solution containing 12.5 ml. 0.1 N NaOH and 12.5 ml. 96% EtOH. The Ni-Al-Cr-B catalyst was prepared in the 46:52:1.9:0.1 ratio and was more active and more stable than the other two.
ACCESSION NUMBER: 1960:82559 CAPLUS
DOCUMENT NUMBER: 54:82559
ORIGINAL REFERENCE NO.: 54:15762f-i
TITLE: Some methods of nickel-skeleton catalyst regeneration
AUTHOR(S): Shcheglov, N. I.; Sokol'skii, D. V.
CORPORATE SOURCE: Inst. Chem. Sci., Acad. Sci. Kazakh. S.S.R., Alma Ata
SOURCE: Trudy Inst. Khim. Nauk, Akad. Nauk Kazakh. S.S.R. (1959), 5, 92-6
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

L28 ANSWER 231 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Catalytic reactions which produce C deposits on the catalyst and the subsequent oxidative regeneration are carried out in a set of parallel reactors so that continuous operation results. The reactors contain a number of successive catalyst beds. Only the 1st bed is regenerated with fresh steam and a part of the O-containing regeneration gas. The hot combustion gas from the 1st (upper) catalyst bed is cooled and diluted within the reactor with H2O and fresh O-containing gas is injected into the catalyst-free sections and then enters the next (lower) bed. In an example, crude oil containing 4.87% S was desulfurized in the presence of H and a Ni W oxide-Al2O3 catalyst at 433-62° and 70 atmospheric. A deposit of 9-10% coke (by weight of catalyst) was formed. After 4 hrs., the reactors were purged with H for 1 hr., subjected to pressure release for 10 min., with steam for 20 min., and regenerated with a gas containing O 3.2, N 19, H2O 76.9, and CO2 0.9% at 399° and 18.3 atmospheric for 2 hrs. The combustion gases were mixed with air and steam and recycled.
ACCESSION NUMBER: 1960:30599 CAPLUS
DOCUMENT NUMBER: 54:30599
ORIGINAL REFERENCE NO.: 54:5990c-f
TITLE: Oxidative regeneration of catalysts loaded with carbonaceous deposits
INVENTOR(S): Glazier, Edwin M.; Hirsch, Joel H.
PATENT ASSIGNEE(S): Gulf Research & Development Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1005219	----	-----	-----	-----
		19570328	DE	

L28 ANSWER 232 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Metallic catalysts, e.g., Ni, Cu, Co, or Fe, poisoned by S compds. present as impurities in hydrogenation or dehydrogenation processes, are purified by treatment with liquid HCO2H. Ni poisoned by S compds. in the hydrogenation of tech. cresol is purified, and its activity is restored by the following treatment in the reaction vessel. Add liquid HCO2H in a stream of N at temperature of 85°, allow to remain overnight, add H slowly, and raise the temperature to 120° and finally to 185° to remove excess HCO2H, and H2S formed. Repeat until all H2S is driven off.
ACCESSION NUMBER: 1959:8487 CAPLUS
DOCUMENT NUMBER: 53:8487
ORIGINAL REFERENCE NO.: 53:1595a-c
TITLE: Reactivation of poisoned metallic catalysts
INVENTOR(S): Masted, Edward B.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 797111	----	-----	-----	-----
		19580625	GB	

L28 ANSWER 233 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB See U.S. 2,671,763 (C.A. 48, 6620b).
ACCESSION NUMBER: 1958:89587 CAPLUS
DOCUMENT NUMBER: 52:89587
ORIGINAL REFERENCE NO.: 52:15786c-d
TITLE: Catalyst regeneration
INVENTOR(S): Winstrom, Leon O.
PATENT ASSIGNEE(S): Allied Chemical & Dye Corp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 927508	----	-----	-----	-----
		19550509	DE	

L28 ANSWER 234 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Catalysts containing combined sulfides of metals from the groups Fe, Co, Ni, and Cr, Mo, and W are reactivated by oxidizing the carbonaceous deposits between 400° and 590°, cooling with air to <250°, and resulfiding at about 200° with H and H₂S in a mole ratio of 12:1. Thus, an activated Al₂O₃ carrier impregnated with 2.9% Ni and 13.6% Mo in the form of their sulfides is reactivated after use in the hydrogenation of crude α-methylnaphthalene by oxidizing with air for 16 hrs. at 400°, cooling with air to 200° and treating with H and H₂S in a 12:1 mole ratio for 1 hr. at 200°. The catalyst regained 90% of its original activity.

ACCESSION NUMBER: 1958:22504 CAPLUS
DOCUMENT NUMBER: 52:22504
ORIGINAL REFERENCE NO.: 52:4069h-i
TITLE: Reactivation of sulfide catalysts
INVENTOR(S): Nozaki, Kenzie
PATENT ASSIGNEE(S): Shell Development Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2813835		19571119	US	

L28 ANSWER 236 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Hydrogenation catalysts consisting of or containing Pt, Pd, Rh, Ir, Ru, Os, Ni, Co, Cu, or Fe, which have been poisoned in liquid-phase hydrogenation, dehydrogenation, or reduction processes by compds. of Se, S, Te, P, As, or Sb, or by S or P in a free state, or by catalytically toxic metallic ions or metallic compds., are revived by desorption or desorptive displacement of the poison by treating the poisoned catalyst with a solvent for the poison, but a solvent which does not attack either the catalyst or the poison chemically. The liquid consists of or contains an unsatd. substance, the chemical structure of which includes 1 or more acetylenic or ethylenic bonds, or a set or sets of benzenoid bonds, or 1 or more carbonyl groups, or unsatd. bonds between 2 N atoms or between a C atom and an N atom. The liquid consists of or contains cyclohexene (I), C₆H₆, ethylenic substances generally, or acetone. In an example, Pt black which had been poisoned in the liquid-phase hydrogenation of an unsatd. substance so that its activity for hydrogenation of I under standardized conditions at 30° was less than 7% of its original unpoisoned activity, was regenerated to its original activity by 2 extns., each for 15 min. at room temperature: (1) 400 cc. AcOH/g. Pt, and (2) 400 cc. AcOH containing 10% I/g. Pt.

ACCESSION NUMBER: 1956:91895 CAPLUS
DOCUMENT NUMBER: 50:91895
ORIGINAL REFERENCE NO.: 50:17258h-1, 17259a
TITLE: Catalyst regeneration
INVENTOR(S): Maxted, Edward B.; Ball, Gerald T.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 744049		19560201	GB	

L28 ANSWER 235 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Impregnation of active C with aqueous caustic containing activators increases the magnitude of the partition coefficient of mercaptans in hydrocarbon distillates. Therefore, they are removed more efficiently. Regeneration of the active C is accomplished by steaming or air-blowing. The process, including the regeneration, takes place at 10-50°. For example, active C having a d. of 330 g./l. is saturated with 1 l./kg. of a 12.5% aqueous NaOH solution. A straight-run gasoline containing 0.013% mercaptan S is percolated at a throughput of 13 vols. gasoline/volume C/hr. to give 71 kg. doctor-sweet product per kg. of C. This product contains approx. 0.001% mercaptan S. The ability of the NaOH-impregnated active C to remove mercaptans is increased by use as activators of a variety of compds.

Data are given on the use of MeOH, ethylene glycol, dimethylamine-HCl, diethanolamine, butyric acid, naphthenic acids, tartaric acid, AcH, acetone, grape sugar, PhOH, m-cresol, mixed phenols, 1-naphthol, pyrocatechol, resorcinol, hydroquinone, pyrogallol, salicylic acid, resorcylic acid, gallic acid, tannins, p-aminophenol, N-benzyl-p-aminophenol, p-aminosalicylic acid, anthraquinone, alizarin, quinizarin, Na salt of m-nitrobenzenesulfonic acid, picric acid, pyridine, N₂H₄ hydrate, CuSO₄, FeCl₃, CrCl₃, MnSO₄, Pb acetate, Co(NO₃)₂, NiCl₃, and Na tartrate.

ACCESSION NUMBER: 1957:45235 CAPLUS
DOCUMENT NUMBER: 51:45235
ORIGINAL REFERENCE NO.: 51:8422g-i
TITLE: Purification of hydrocarbons
PATENT ASSIGNEE(S): Gelsenberg Benzin A.-G.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 763625		19561212	GB	

L28 ANSWER 237 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB The catalytic O hydrogenation at 50-100° and at a high space velocity of 5000-10,000/hr. can be used for the O elimination, without catalyst regeneration over long time periods. The equilibrium conditions of the H-O system insures a practically complete O removal. The only objection to the method is the contamination of the gas with H, a small excess of which is required. Both metallic and oxide catalysts can be used, but the oxide catalysts require a much higher temperature (300-400°) at the high flow rate. The group VIII catalysts, Pt, Pd, and Ni, can be used, and above 180° their activities differ very little. Ni catalysts are used in gas mixts. containing a large excess of H (H, N + H, etc.), but are not adapted to mixts. containing over 0.1% O, or in the inert-gas purification with a H:O proportion close to the stoichiometric, in which case the Pt or Pd catalysts are used.

The methods of catalyst preparation are described. The kinetics of the O-hydrogenation reaction is discussed, and the directions are given for the calcn. of required catalyst volume. Data are given on the heating of the catalyst during the reaction and the temperature of the catalyst surface.

ACCESSION NUMBER: 1956:84601 CAPLUS
DOCUMENT NUMBER: 50:84601
ORIGINAL REFERENCE NO.: 50:15991h-1, 15992a
TITLE: Catalytic purification of gases from admixed oxygen
AUTHOR(S): Borekov, G. K.; Slin'ko, M. G.
SOURCE: Khim. Prom. (1956) 69-77
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

L28 ANSWER 238 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB See U.S. 2,671,763 (C.A. 48, 6620b).
ACCESSION NUMBER: 1954:50635 CAPLUS
DOCUMENT NUMBER: 48:50635
ORIGINAL REFERENCE NO.: 48:8990d
TITLE: Catalyst regeneration
PATENT ASSIGNEE(S): Allied Chemical & Dye Corp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 702018		19540106	GB	

L28 ANSWER 239 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A catalyst comprising **NiS** associated with a substance of the group consisting of activated Al₂O₃ is regenerated by treating the partially spent catalyst with a gas containing O at about 300-700° until all carbonaceous deposits on the catalyst have been removed and without any intervening sulfiding step. The oxidized catalyst is treated with a gas containing H at about 200-700° until the catalyst has been reactivated. The process is applicable to regenerating the **NiS**-Al₂O₃-type catalysts used in the catalytic **hydrogenation** of aromatic nitro compds., particularly the vapor-phase catalytic **hydrogenation** of PhNO₂ to PhNH₂.

ACCESSION NUMBER: 1954:36975 CAPLUS
DOCUMENT NUMBER: 48:36975
ORIGINAL REFERENCE NO.: 48:6620b-c
TITLE: Catalyst regeneration
INVENTOR(S): Winstrom, Leon O.; Harris, Wm. B.
PATENT ASSIGNEE(S): Allied Chemical & Dye Corp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2671763		19540309	US	

L28 ANSWER 240 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A catalytic process for desulfurizing heavy petroleum oils is described in which reactivation of the spent **Ni** catalyst is accomplished by oxidation followed by **reduction** under controlled conditions. S-containing hydrocarbons in the vapor phase are desulfurized by contact at elevated pressure and 820-75°F. with H and a **Ni** catalyst containing 15-25% **Ni** deposited on a porous support. Regeneration is accomplished by treatment of the catalyst at 750-800°F. with a mixture of steam and reducing gas (mole ratio 4.5-28:1). The final temperature after **reduction** is at least 40°F. higher than the initial **reduction** temperature (820-75°F.). On terminating the flow of steam, the S-containing hydrocarbon vapors are immediately brought into contact with the partially reduced **Ni** catalyst while it is at approx. the final reaction temperature and pressure.
ACCESSION NUMBER: 1953:60227 CAPLUS
DOCUMENT NUMBER: 47:60227
ORIGINAL REFERENCE NO.: 47:10215d-f
TITLE: Hydrosulfurization process
INVENTOR(S): Crawford, Vincent L.
PATENT ASSIGNEE(S): Gulf Research & Development Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2646388		19530721	US	

L28 ANSWER 241 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Highly active **hydrogenation** or dehydrogenation catalysts are prepared by dissolving the ineffective components from Raney alloys and simultaneously precipitating catalytically effective metals, such as **Ni**, **Co**, **Cu**, or **Ag**, from appropriate metal solns. by the evolved nascent H. Metal salt solns. are chosen which will not set free an anion (after the catalytic metal separation) capable of forming an inorg. acid with water which might inactivate or dissolve the catalyst. Therefore complex metal salts are suitable, especially those with metal components (to be precipitated) which form a cation complex with NH₃. The reaction may be represented by the following equations: 2 (**Ni**-Al) + 6 NaOH → 2 **Ni** + 2 Al(ONa)₃ + 3 H₂ + 3 [Cu(NH₃)₄]Cl₂ + 3 Cu + 6 NH₃ + 6 NH₄Cl. Pulverulent Al-**Ni** alloy 100 is suspended in water 1000 at 90°. To this suspension is added a solution of NaOH 240 in water 400 and a solution of Cu chloride 43 and NH₄Cl 26 in 12% aqueous NH₃ 280 parts which gives after 2 hrs. a highly active **Ni**-Cu mixture. The mixture may be purified by decanting and washing. The Cu chloride solution may be replaced by a **Ni** or **Co** chloride solution or a solution of several metals, such as a mixture of Cu, **Ni**, **Co**, and **Ag** nitrate, with NH₄NO₃.

ACCESSION NUMBER: 1952:52785 CAPLUS
DOCUMENT NUMBER: 46:52785
ORIGINAL REFERENCE NO.: 46:8788h-1,8789a-b
TITLE: Highly active **hydrogenation** and dehydrogenation catalysts
INVENTOR(S): Moldenhauer, Otto; Trautmann, Gunther; Behncke, Hermann
PATENT ASSIGNEE(S): Phrix-Werke A.-G.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 8261134		19511227	DE	

L28 ANSWER 242 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN

AB A catalyst used in forming CH₄ in gases containing CO and H₂ in the preparation of which catalyst Ni is precipitated partly as a silicate and partly as an easily reducible basic substance, and which catalyst does not give rise

to the formation of silicates to a considerable extent, is regenerated at a temperature of 250-500° and at atmospheric or increased pressure with the H₂-containing gas obtained in the formation of CH₄. In an example a Ni catalyst was prepared by mixing 900 cc. of a boiling solution containing

84 g. Na₂CO₃ with 100 cc. of a solution of Na silicate containing 11.2 g.

SiO₂, adding in less than 0.5 min. 1 l. of a boiling solution containing 40 g. Ni, 6 g. MgO, and 2.4 g. ThO₂ in the form of nitrates, stirring for 2 min., washing the precipitate for 2 hrs. with 9 l. distilled H₂O of 95°,

drying the precipitate for 4 hrs. at 110°, pulverizing and sieving on a sieve with opening of 0.35-mm. diameter, mixing 70 parts by weight of this product with 100 parts of Al powder and 1 part of graphite, and pressing the mass into pieces of 5-mm. diameter and 3-mm. length. The catalyst was reduced by

H at 325° for 1 hr. with a velocity of 250 cm./sec. Now 66.4% of the Ni was in metallic form. Gas mixts. containing H₂ and 2-10% CO were passed at atmospheric pressure over this catalyst at 210-350° and with velocities of 1000-3000 l. gas/l. catalyst/hr. After 2000 hrs. the activity was reduced to 95% of the original one, and a carbonaceous product was deposited upon the catalyst. This was regenerated with the gas obtained in the formation of CH₄ and containing besides H 0.002 volume % CO and 2.3 volume % CH₄, which gas was passed over the catalyst at 350° for 24 hrs. with a velocity of 100 l./100 l. catalyst/hr. The catalyst regained its original activity.

ACCESSION NUMBER: 1952:43752 CAPLUS
DOCUMENT NUMBER: 46:43752
ORIGINAL REFERENCE NO.: 46:7308a-d
TITLE: Regenerating nickel-containing catalysts
PATENT ASSIGNEE(S): N. V. de Bataafsche Petroleum Maatschappij
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 69050	---	19511215	NL	-----

L28 ANSWER 243 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN

AB A spent Fischer-Tropsch synthesis catalyst is used in such a manner that in one step it furnishes C to the process for the manufacture of CO and H₂ synthesis gas, and in a 2nd step furnishes O to the natural-gas oxidation for producing synthesis gas. Catalysts adaptable to the process contain Fe, Co, or Ni.

ACCESSION NUMBER: 1952:43751 CAPLUS
DOCUMENT NUMBER: 46:43751
ORIGINAL REFERENCE NO.: 46:73071,7308a
TITLE: Fischer-Tropsch catalyst
INVENTOR(S): Mayland, Bertrand J.
PATENT ASSIGNEE(S): Phillips Petroleum Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2598186	---	19520527	US	-----

L28 ANSWER 244 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN

AB Hydrogenation catalysts consisting of or containing metallic Ni, Co, Cu, or Fe, which have become poisoned during use in the reduction of materials containing toxic compds. of S, Se, Te, or P, or of these elements in a free state, are revived by treatment with a per acid of Mo, W, Cr, V, P, or a salt thereof, and washing and drying. In many cases it is convenient to prepare the solution containing the per

acids or salts by causing H₂O₂ to react with a suitable acid or salt of the above elements. In an example, a catalyst consisting of Ni supported on kieselguhr had become poisoned so that it possessed about 2% of its original activity, by use in hydrogenation of an impure phenol containing catalytically toxic S compds. The catalyst was washed to

remove adherent phenol, and was then suspended in cold water and revived by addition of Na₂Mo10O₃1 (I) in dilute aqueous solution. The I was made by

allowing Na₂MoO₄, in amount equal to about 1% by weight of the poisoned Ni, to react with an excess of H₂O₂. The aqueous suspension of catalyst in the reagent was then heated to 100° in order to destroy the excess of I. The catalyst was then separated, washed, and dried at 100°. After reduction of the revived catalyst at 300-320°, the original activity was found to have been restored.

ACCESSION NUMBER: 1951:14652 CAPLUS
DOCUMENT NUMBER: 45:14652
ORIGINAL REFERENCE NO.: 45:2608b-e
TITLE: Revivification of catalysts
INVENTOR(S): Maxted, Edward B.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 644239	---	19501004	GB	-----

L28 ANSWER 245 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN

AB A catalyst which is used for the conversion of CO and H₂ to form hydrocarbons is decarbonized by bringing it into contact with a metal oxide which is reducible by C at a temperature below the fusion point of the catalyst, and which does not adversely affect the conversion, at a

temperature which is conducive to decarbonization of the catalyst, with formation of CO or CO₂. Suitable oxides are those of Fe, Ni, Mn, Ti, V, Co, Cr, Mo, Cu, and their mixts. When using Fe₂O₃ as the metal oxide for reducing the C content of an Fe catalyst from about 35% by weight to about 5% by weight, about 2 lb. Fe₂O₃ will be required per lb. of catalyst to be decarbonized. The catalyst to be decarbonized in contact with the metal oxide should contain about 5-20% by weight of the catalytically active metal component in the form of the oxide of that component. Decarbonization temps. suitable for the treatment of Fe catalysts with Fe₂O₃ are in the range 649-760°.

ACCESSION NUMBER: 1950:34491 CAPLUS
DOCUMENT NUMBER: 44:34491
ORIGINAL REFERENCE NO.: 44:6605b-d
TITLE: Regeneration of catalysts
INVENTOR(S): Krebs, Robert W.
PATENT ASSIGNEE(S): Standard Oil Development Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2506302	---	19500502	US	-----

L28 ANSWER 246 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Catalytically cracked gasolines were obvious sources of aromatic compds. for improvement of rich-mixture ratings of aviation gasolines. High-S and olefin content of many of these stocks made them unsuitable without treatment. Conventional refining with H₂SO₄ was unsuitable because of excessive losses. A process for the controlled hydrogenation of these stocks with a com. W-Ni sulfide catalyst, was developed and used in two com. plants, greatly augmenting supplies of aviation gasoline. Pilot-plant data are given graphically on the effect of: pressure on S retention and catalyst life, space velocity and maximum catalyst temperature on S retention, S content of feed on Br number of product, and b.p. range of feed on relative S and olefin retentions. The pilot-plant reactor was a 12-ft. by 4.25-in. I.D. tube of 46% Cr steel, with elec. heaters to maintain adiabatic conditions. Upflow was used through the 6-ft. catalyst bed containing 0.57 cu. ft. of 0.25-in. catalyst pellets. Catalyst had a bulk density of 130 lb./cu. ft. and contained 40% W and 25% Ni. Typical operating conditions were: pressure, 720 lb./sq. in.; mol. ratio H to feed, 7:1; liquid hourly space velocity, 10; liquid feed rate, 42 gal./hr.; temperature, 650°F. Liquid yield was over 100 volume % because of decrease in liquid density. Increase in total pressure reduces S retention and increases catalyst life. At a given space velocity conversion is a function of both catalyst age and temperature, but in com. practice a moderate figure is preferred, 5 to 15. With a fresh catalyst, control of extent of reaction requires a low temperature or high space velocity, the former being more feasible. With decline in catalyst activity the temperature is raised. Practical temperature range is 450-800 °F. At higher temps. decline in catalyst activity is rapid. Maximum catalyst temperature gives the best correlation with extent of reaction, and temperature rise in the adiabatic reactor must be considered. This is about 4°F. for each mol. % olefins hydrogenated. If the reaction proceeds to hydrogenation of aromatic compds., temperature rise will be much greater. Variations of mol. ratio of H to feed above 2:1 do not affect S retention, but maintenance of catalyst activity requires recycle of at least 6000 cu. ft. of gas containing not less than 80% H per barrel of feed. H₂S is removed from recycle gas by scrubbing with NaOH solution, and if the H feed is reasonably pure very little build-up of inert gas occurs. At constant operating conditions S retention is independent of S content of feed. S compds. are hydrogenated more readily than olefins, and olefins more readily than aromatic compds. When the Br number of the product is not below 3, loss of aromatic compds. is negligible, and at the usual level of 5-10 diolefins are completely hydrogenated. With increase in average b.p. of feed, increased temperature is required to maintain the same S retention. Overheating or failure of H recirculation may cause rapid loss of catalyst activity, but this loss is usually gradual. The catalyst can be reactivated by recirculation of H without charge, but

L28 ANSWER 247 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Hydrocarbons of more than one C atom are synthesized from CO and H by a catalytic process at a temperature of about 180°. A high-activity, powdered, solid hydrogenation catalyst consisting of Ni, Co, Fe, and their oxides is employed. This is suspended in the gases, and an active metal carbide layer forms on the catalyst. Following a period of synthesis reaction with consequent reduction in catalytic activity to an efficiency of about 30% normal activity, the deactivated catalyst is introduced into direct contact with a stream of H gas at a temperature of about 50° for a period of 0.5 to 5.0 hrs. to regenerate the activity of the catalyst without destruction of the carbide layer on the surface of the catalyst and to prepare it for return to the synthesis zone.
 ACCESSION NUMBER: 1949:52757 CAPLUS
 DOCUMENT NUMBER: 43:52757
 ORIGINAL REFERENCE NO.: 43:9420h-i
 TITLE: Reactivation of catalysts in hydrocarbon synthesis
 INVENTOR(S): d'Ouille, Edmond L.
 PATENT ASSIGNEE(S): Koppers Co., Inc.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2748899		19490816	US	

L28 ANSWER 246 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN (Continued)
 after 2 or 3 such treatments (15,000-25,000 vols. feed/vol. catalyst) regeneration with steam and air, followed by resulfiding, is required. Complete data are given on treatment of 4 catalytic gasolines, one aromatic distillate, and a high-S straight-run gasoline.
 ACCESSION NUMBER: 1950:11245 CAPLUS
 DOCUMENT NUMBER: 44:11245
 ORIGINAL REFERENCE NO.: 44:2216a-h
 TITLE: Hydrodesulfurization of gasoline fractions with tungsten-nickel sulfide catalyst
 AUTHOR(S): Cole, Robert M.; Davidson, D. D.
 CORPORATE SOURCE: Shell Development Co., Wilmington, CA
 SOURCE: Journal of Industrial and Engineering Chemistry (Washington, D. C.) (1949), 41, 2711-15
 CODEN: JIECAD; ISSN: 0095-9014
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

L28 ANSWER 248 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB When the activity of a catalyst has been reduced by the formation of waxy deposits, regeneration is periodically effected by increasing the reaction temperature so that gaseous hydrocarbons are formed and the waxy deposits on the catalyst are removed. E.g., a catalyst containing Co 100, ThO₂ 18, and Kieselguhr 100 parts was used in hydrocarbon synthesis 2 weeks at 246° and 100 lb./sq. in. pressure at an hourly space velocity of 100. At this point a decline in the yield of liquid hydrocarbons was noted due to waxy deposits on the catalyst. The temperature was allowed to rise to 308° by reducing the cooling until the effluent hydrocarbons were primarily CH₄ and C₂H₆ and continuing operation at this temperature 5 hrs. The temperature was then reduced to 246° and normal operation resumed. The process is also applicable to Fe and Ni catalysts.
 ACCESSION NUMBER: 1949:52755 CAPLUS
 DOCUMENT NUMBER: 43:52755
 ORIGINAL REFERENCE NO.: 43:9420d-f
 TITLE: Regeneration of catalysts in the production of hydrocarbons from carbon monoxide and hydrogen
 INVENTOR(S): Clark, Alfred
 PATENT ASSIGNEE(S): Phillips Petroleum Co.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2479999		19490823	US	

L28 ANSWER 249 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Metals, such as Mn, U, Ce, Mg, Ni, and Fe deposited in
kieselguhr, are regenerated after use in the catalytic preparation of
hydrocarbons by heating in a stream of H₂ at 350-450°; the speed of
the gas being 500-1000 cu. m. per hr. for each sq. m. of the passage and
the gas having less than 2.5 g. of CO and 1 g. H₂O per cu. m. The
temperature
may be attained gradually. The used catalyst may, prior to this
treatment, be treated with O or an O-yielding gas. Cf. C.A. 41, 3943c.
ACCESSION NUMBER: 1948:28494 CAPLUS
DOCUMENT NUMBER: 42:28494
ORIGINAL REFERENCE NO.: 42:6091f,6092a-b
TITLE: Regeneration of metallic catalysts used in preparing
hydrocarbons from hydrogen and carbon monoxide
PATENT ASSIGNEE(S): N. V. Internationale Koolwaterstoffen Synthese
Maatschappij
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 861745		19410215	FR	

L28 ANSWER 251 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Spent **hydrogenation** catalysts of Ni-Al, Ni
-Si type are regenerated by heating in contact with material in which the
catalyst was previously employed at a temperature of 600-700°F. The
decomposition products are then removed by blowing with an inert gas,
preferably superheated steam, at the same temperature, or by the use of
an organic
solvent. The catalyst is then subjected to an activation process, such
as
is customarily applied to a freshly prepared catalyst.
ACCESSION NUMBER: 1946:5808 CAPLUS
DOCUMENT NUMBER: 40:5808
ORIGINAL REFERENCE NO.: 40:1000g-h
TITLE: Regeneration of **nickel** alloy catalysts
INVENTOR(S): Drew, John
PATENT ASSIGNEE(S): Hercules Powder Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2388959		19451113	US	

L28 ANSWER 250 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Full regeneration is possible in 2 phases, the 1st with H₂ at 350°
or more to remove high-mol. compds., the 2nd at about 450° till
activity is restored. The method is meant for Co catalyst, also for
Ni or Fe, possibly activated with Th, Mn, U, Ce, or Mg oxide.
ACCESSION NUMBER: 1947:19681 CAPLUS
DOCUMENT NUMBER: 41:19681
ORIGINAL REFERENCE NO.: 41:3943c-d
TITLE: Regenerating catalyzers from the conversion of carbon
monoxide and hydrogen to hydrocarbons
PATENT ASSIGNEE(S): N. V. Internationale Koolwaterstoffen Synthese
Maatschappij
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
NL 53298		19421015	NL	

L28 ANSWER 252 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB A process for mfg. a pelleted composite catalyst consisting essentially
of
a relatively inert carrier, such as kieselguhr, supporting a minor
amount of
a catalytically active material, such as reduced Ni, involves
mixing the finely divided carrier with a minor amount of a metal soap of
a
normally solid organic acid, such as Ni stearate, forming pellets
from the mixture and adding a solution of a metal salt, such as Ni
carbonate, to form an active catalyst on the pellets, and subsequently
calcining in an oxidizing atmospheric and reducing by H.
ACCESSION NUMBER: 1941:3557 CAPLUS
DOCUMENT NUMBER: 35:3557
ORIGINAL REFERENCE NO.: 35:588d-e
TITLE: Catalysts suitable for use in **hydrogenation**,
etc.
INVENTOR(S): Ipatieff, Vladimir N.; Corson, Ben B.
PATENT ASSIGNEE(S): Universal Oil Products Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2211208		19400813	US	

L28 ANSWER 253 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Spent catalytic metal is oxidized and the resulting oxide is mixed with a reducing metal (such as Al in the case of Ni oxide) in sufficient amount to reduce the oxide and with an excess to alloy with the reduced metal. The resulting mixture is heated to effect reduction and alloying, and the alloying metal is then dissolved with a selective solvent.

ACCESSION NUMBER: 1939:14120 CAPLUS
DOCUMENT NUMBER: 33:14120
ORIGINAL REFERENCE NO.: 33:2099f-g
TITLE: Recovering catalytic metals such as nickel after use
INVENTOR(S): Raney, Murray
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2139602	---	19381206	US	-----

L28 ANSWER 254 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB In the recovery of spent Ni formate catalyst with the aid of sulfonic acids, a good emulsification of fat and rapid dissolving of Ni in H₂SO₄ and separation of oil (2-5 min. in laboratory) are effected.
A mixture of 15% excess of H₂SO₄, 20% B.act.e.e., 3% sulfonic acids (based on the spent catalyst) and 100 g. of catalyst (containing 11% Ni) was heated on a water bath with stirring, giving a solution with 10.2 g. Ni. The Ni was recovered from the solution by the usual methods and used in hydrogenation of oils, with good results.

ACCESSION NUMBER: 1936:40417 CAPLUS
DOCUMENT NUMBER: 30:40417
ORIGINAL REFERENCE NO.: 30:5371e-g
TITLE: Recovery of nickel catalyst with sulfuric acid, with the addition of sulfonic acids
AUTHOR(S): Kazakova, L.
SOURCE: Masloboino-Zhirovoe Delo (1936), 12, 145-6
CODEN: MZHDAD; ISSN: 0369-304X
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

L28 ANSWER 255 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB cf. Troyanovskii, C. A. 29, 8249.8. For the regeneration of Ni catalyst precipitated on clay, 350-400 kg. of the spent catalyst is heated, with stirring, for 30-40 min. with a sufficient amount of 8-10% B.act.e.e. NaOH to saponify 1/2 of the fat, and then with 30% B.act.e.e. NaOH to saponify 20-40% of the remaining fat at 90-5° for 1.5-2 hrs. The mixture is then treated with 350-400 l. of 5% B.act.e.e. NaClO (containing 1.4% active Cl) and 350-400 l. H₂O at 60° for 1 hr. After dilution with 2.5-4 vols. of H₂O, the mixture is brought to a boil and allowed to settle for 3-4 hrs. The supernatant soap solution and fat are siphoned off, the catalyst stirred with 4-5 vols. of hot H₂O (80-5°), the mixture neutralized with H₂SO₄, and the catalyst, after filtering and washing to a neutral reaction, is dried and reactivated in H₂ at 450°. Hydrogenation of sunflower oil with the regenerated catalyst gave fat mixts., m. 50-55°. The recovery is effected with a loss of 6-10% Ni, as compared with 40-50% by the ordinary method.

ACCESSION NUMBER: 1936:29952 CAPLUS
DOCUMENT NUMBER: 30:29952
ORIGINAL REFERENCE NO.: 30:3950h-1,3951a
TITLE: Regeneration of spent catalysts
AUTHOR(S): Etinburg, E.; Vengerova, N.; Gol'dshtein, G.
SOURCE: Masloboino-Zhirovoe Delo (1935), 11, 574-5
CODEN: MZHDAD; ISSN: 0369-304X
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

L28 ANSWER 256 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
AB Reduced Ni catalysts were made from Ni(OH)₂, Ni(OH)₂ after oxidation with Br₂, and NiCO₃, in suspension in oil. Hydrogenation tests showed that NiCO₃ yields even more potent catalysts than does Ni formate. The results have an important bearing on the regeneration of spent catalysts in oil hardening.
ACCESSION NUMBER: 1935:63848 CAPLUS
DOCUMENT NUMBER: 29:63848
ORIGINAL REFERENCE NO.: 29:8374a
TITLE: Regenerating simple nickel compounds directly in oil
AUTHOR(S): Zinov'ev, A.; Vinogradova, M.; Popova, O.
SOURCE: Trudni VNIIZh (1934), (No. 3), 24-9
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

L28 ANSWER 257 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Waste Ni catalyst used for the hardening of oils is dissolved in
 H2SO4 containing HNO3. To the solution NaOH or Na2CO3 is added in such
 amount that
 Ni is not precipitated but most of the Fe and other impurities are
 precipitated
 After separation from the precipitate, the solution is heated with a
 small amount of an
 oxidizing agent (such as KMnO4 or Na2O2), by which the remaining Fe is
 precipitated. From the filtrate, Ni is recovered as hydroxide with
 caustic alkali.

ACCESSION NUMBER: 1934:21525 CAPLUS
 DOCUMENT NUMBER: 28:21525
 ORIGINAL REFERENCE NO.: 28:2559f-h
 TITLE: Recovery of waste nickel catalyst
 INVENTOR(S): Kimura, Goro
 PATENT ASSIGNEE(S): Hokkai Yushi Kogyo K. K.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 99594		19330216	JP	

L28 ANSWER 258 OF 258 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Hydrogenation-promoting metals such as Ni, Cu and Co
 are separated in finely divided form from aqueous solns. of their salts
 by the use
 of Fe, Zn and Al (which may be effected in the presence of a non-metallic
 carrier such as kieselguhr, silica gel or charcoal) and the catalysts
 thus
 prepared may be used in the hydrogenation of aromatic hydrocarbons
 or their derivs. such as toluene or phenol, in the hydrogenation
 of unsatd. compds. such as cinnamic acid or fats in the production of
 alcs. from aldehydes and ketones, conversion of quinones to
 hydroquinones,
 and in reduction of nitriles, nitro, azoxy, azo and hydrazo
 compds. to the corresponding amines (these reactions may be effected in
 the liquid phase and at comparatively low temps.). If the solution from
 which the catalyst is prepared is alkaline the oxide of the more
 electropositive
 element is deposited and serves as an activator. The catalyst may be
 dried in vacuo or in a current of H before use.

ACCESSION NUMBER: 1928:29848 CAPLUS
 DOCUMENT NUMBER: 22:29848
 ORIGINAL REFERENCE NO.: 22:3500b-d
 TITLE: Catalysts
 PATENT ASSIGNEE(S): I. G. Farbenindustrie AG
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 281218		19261127	GB	

=> d his

(FILE 'HOME' ENTERED AT 16:17:05 ON 14 SEP 2004)

FILE 'CAPLUS' ENTERED AT 16:17:17 ON 14 SEP 2004

L1 1207996 S CATALY?
L2 1087400 S REDUCT?
L3 256764 S HYDROGENAT?
L4 1299917 S L2 OR L3
L5 224466 S L1 AND L4
L6 775627 S NI OR NICKEL
L7 1091254 S COPPER OR CU
L8 513944 S CHROMIUM OR CR
L9 40533 S L5 AND L6
L10 162143 S REGEN?
L11 1162 S L9 AND L10
L12 239 S L11 AND L7

FILE 'REGISTRY' ENTERED AT 16:21:50 ON 14 SEP 2004

L13 STRUCTURE UPLOADED
L14 1 S L13
L15 STRUCTURE UPLOADED
L16 1 S L15
L17 STRUCTURE UPLOADED
L18 7 S L17
L19 STRUCTURE UPLOADED
L20 7 S L19
L21 1647 S L19 FULL

FILE 'CAPLUS' ENTERED AT 16:24:50 ON 14 SEP 2004

L22 3471 S L21
L23 90 S L22 AND L5
L24 40 S L23 AND L6
L25 5 S L24 AND L10
L26 4927 S (CATALYST REGENERATION)
L27 1176 S L26 AND L4
L28 258 S L27 AND L6

=> s amine

247822 AMINE
235832 AMINES
L29 380622 AMINE
(AMINE OR AMINES)

=> s ?amine

SYSTEM LIMITS EXCEEDED - SEARCH ENDED

The search profile you entered was too complex or gave too many answers. Simplify or subdivide the query and try again. If you have exceeded the answer limit, enter DELETE HISTORY at an arrow prompt (= >) to remove all previous answers sets and begin at L1. Use the SAVE command to store any important profiles or answer sets before using DELETE HISTORY.

=> s l28 and l29

L30 11 L28 AND L29

=> d l30 1-11 abs ibib

L30 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Xylenediamines are prepared by **hydrogenating** dicyanobenzenes in a liquid phase in the presence of a catalyst, where the catalyst having its activity decreased during the course of the **hydrogenation** of the dicyanobenzenes is contacted with a hydrogen-containing gas at 200-500° while controlling a temperature rise speed of the catalyst to 540°/min, thus regenerating the catalyst which can then be reused in subsequent **hydrogenations** of the dicyanobenzenes.

ACCESSION NUMBER: 2004:162518 CAPLUS
 DOCUMENT NUMBER: 140:219730
 TITLE: **Hydrogenation** process and catalyst for the production of xylenediamines from dicyanobenzenes and a regeneration process for the catalyst
 INVENTOR(S): Amakawa, Kazuhiko
 PATENT ASSIGNEE(S): Japan
 SOURCE: U.S. Pat. Appl. Publ., 7 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004039232	A1	20040226	US 2003-643981	20030820
JP 2004107327	A2	20040408	JP 2003-292139	20030812
EP 1394146	A1	20040303	EP 2003-18532	20030816
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			JP 2002-245222	A 20020826

OTHER SOURCE(S): CASREACT 140:219730

L30 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A method for regenerating spent supported metal catalysts comprising treating the spent catalyst with an organo-metallic complex forming agent having an ionization constant pK 1 of at least 2.5. The catalyst activity is restored to an activity level near to or greater than the fresh catalyst. The regeneration method is particularly useful for regenerating spent palladium catalysts on an alumina support as utilized for the **hydrogenation** of Et anthraquinone (EAQ) in the production of hydrogen peroxide.

ACCESSION NUMBER: 2003:912824 CAPLUS
 DOCUMENT NUMBER: 140:9216
 TITLE: Regeneration of spent supported metal catalysts
 INVENTOR(S): Zhou, Bing; Rueter, Michael
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of U.S. Ser. No. 745,510.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003216245	A1	20031120	US 2002-326042	20021220
US 2002115554	A1	20020822	US 2000-745510	20001222
US 6740615	B2	20040525		
WO 2004060553	A1	20040722	WO 2003-US9216	20030325
W: AT, CA, CN, IN, JP, MX RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
PRIORITY APPLN. INFO.:			US 2000-745510	A2 20001222
			US 2002-326042	A 20021220

L30 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AB There is provided a process for hydrocarbon synthesis wherein a supported metal catalyst for **hydrogenating** carbon monoxide to form a mixture of hydrocarbons is regenerated by decreasing its hydrocarbon content, impregnating under a non-oxidative atmospheric with a solution of at least one member of the group of ammonium salts (e.g., ammonium acetate), alkylammonium salts, and weak organic acids, optionally including ammonia, oxidizing with a gaseous oxidant (e.g., air) in the presence of the impregnating solution, activating the catalyst by **reduction** with hydrogen at elevated temps., and reusing the catalyst. The treatment may be carried out in a single reactor, or by carrying out all of the steps after catalyst has been withdrawn therefrom and returned to at least one reactor. Up to all steps subsequent to decreasing the hydrocarbon content may be affected in a subsequent reactor, or in specialized apparatus

ACCESSION NUMBER: 2003:610393 CAPLUS
 DOCUMENT NUMBER: 139:151409
 TITLE: Process for Fischer-Tropsch catalyst **regeneration** in the manufacture of C10+ hydrocarbons from synthesis gas
 INVENTOR(S): Koveal, Russell John; Daage, Michel; Shen, Eric
 PATENT ASSIGNEE(S): Baochun
 SOURCE: ExxonMobil Research and Engineering Company, USA
 PCT Int. Appl., 50 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003064356	A1	20030807	WO 2003-US202	20030103
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, ME, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TH, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TN, RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003166451	A1	20030904	US 2002-59916	20020129
US 6753354	B2	20040622		
PRIORITY APPLN. INFO.:			US 2002-59916	A 20020129

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L30 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The invention relates to a method for regenerating a catalyst such as a plate or honeycomb catalyst that is at least partially deactivated as a result of toxic substances. The catalyst, e.g., a selective catalytic **reduction** catalyst for nitrogen oxides removal from exhaust gases, is treated with a gaseous reducing agent and a polyfunctional complex forming agent to eliminate said toxic substances.

ACCESSION NUMBER: 2000:68390 CAPLUS
 DOCUMENT NUMBER: 132:82747
 TITLE: Method for regenerating a deactivated catalyst
 INVENTOR(S): Neufert, Ronald
 PATENT ASSIGNEE(S): Siemens Aktiengesellschaft, Germany
 SOURCE: PCT Int. Appl., 11 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000003804	A2	20000127	WO 1999-DE2067	19990705
WO 2000003804	A3	20000420		
W: JP, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19832057	C1	20000316	DE 1998-19832057	19980716
EP 1098704	A2	20010516	EP 1999-945907	19990705
EP 1098704	B1	20030423		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002520153	T2	20020709	JP 2000-559935	19990705
AT 238100	E	20030515	AT 1999-945907	19990705
US 2001003116	A1	20010607	US 2001-761811	20010116
US 6596661	B2	20030722		
PRIORITY APPLN. INFO.:			DE 1998-19832057	A 19980716
			WO 1999-DE2067	W 19990705

L30 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AB Raney catalysts for **hydrogenation** of nitriles to **amines** are regenerated by mixing with aqueous base of basic ion concentration >0.01 mol/L, heating the mixture at <130°, and washing the treated catalyst with water or base such that the final rinse water has a pH of 12-13. The heating may be done under H and the degree of regeneration is 90-100%. Examples employing soda or NaOH are given for Raney Ni catalyst used to **hydrogenate** adiponitrile to hexamethylenediamine and/or 6-aminocaproitrile.

ACCESSION NUMBER: 2000:43909 CAPLUS
 DOCUMENT NUMBER: 132:65730
 TITLE: Regeneration of catalyst used to **hydrogenate** nitriles and its use
 INVENTOR(S): Boschhat, Vincent; Leconte, Philippe
 PATENT ASSIGNEE(S): Rhodia Fiber and Resin Intermediates, Fr.
 SOURCE: Fr. Demande, 13 pp.
 CODEN: FRXXBL
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2773086	A1	19990702	FR 1997-16832	19971229
FR 2773086	B1	20000211		
CA 2316821	AA	19990708	CA 1998-2316821	19981223
WO 9933561	A1	19990708	WO 1998-FR2856	19981223
W: BR, BY, CA, CN, CZ, ID, JP, KR, PL, RO, RU, SG, SK, UA, US, VN				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1042068	A1	20001011	EP 1998-963616	19981223
R: BR, DE, ES, FR, GB, IT, NL				
BR 9814561	A	20011016	BR 1998-14561	19981223
JP 2001526956	T2	20011225	JP 2000-526298	19981223
RU 2190469	C2	20021010	RU 2000-120191	19981223
US 6518449	B1	20030211	US 2001-582657	20010209
PRIORITY APPLN. INFO.:			FR 1997-16832	A 19971229
			WO 1998-FR2856	W 19981223

L30 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The title catalysts are regenerated at high temperature in a gas containing O, N compds. in the form of **amines** and/or N oxides, and, optionally, steam. A spent catalyst containing Pd 6, V 9, and Pb 6 g/L alumina, used to reduce PhNO₂ to PhNH₂, was regenerated at <450° with a gas mixture containing 12.5 g/h 5% aqueous NH₃, 4 L/h air, and 8 L/h N (reduced to 4 L/h during regeneration) until CO₂ was not present in the outlet gas. The regenerated catalyst gave 90% PhNO₂ conversion with 88% selectivity to PhNH₂ initially and 88% PhNO₂ conversion with 90% selectivity to PhNH₂ after 200 h.

ACCESSION NUMBER: 1987:409324 CAPLUS
 DOCUMENT NUMBER: 107:9324
 TITLE: Regeneration of catalysts for gas-phase **reduction** of aromatic nitro compounds
 INVENTOR(S): Stammann, Guenter; Kricsfalussy, Zoltan; Waldmann, Helmut; Schneider, Joachim; Medem, Harald
 PATENT ASSIGNEE(S): Bayer A.-G., Fed. Rep. Ger.
 SOURCE: Ger. Offen., 6 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3530820	A1	19870305	DE 1985-3530820	19850829
DE 3530820	C2	19880721		
US 4714689	A	19871222	US 1986-894581	19860807
EP 212602	A1	19870304	EP 1986-111377	19860818
EP 212602	B1	19880921		
R: BE, DE, FR, GB, IT				
JP 62053745	A2	19870309	JP 1986-194108	19860821
BR 8604109	A	19870422	BR 1986-4109	19860828
PRIORITY APPLN. INFO.:			DE 1985-3530820	19850829

L30 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AB A Raney **nickel** catalyst for **reduction** of tris(hydroxymethyl)nitromethane (I) by H₂ is regenerated using ammonium formate, or an aliphatic **amine** formate (produced in situ from stoichiometric amts. of HCO₂H and an **amine** base). Thus, a MeOH solution of Raney **nickel** was saturated with H₂, and mixed with I. After 2.5 h **reduction**, the postreaction liqs. and the catalyst were separated. The catalyst was washed, then mixed with MeOH. This solution was saturated with H₂, added with Et₃N and 30% aqueous HCO₂H (in the amount stoichiometric with respect to Et₃N), and with MeOH solution of I. The above process was repeated 5 times; Raney **nickel** showed no **reduction** of its catalytic activity. The yield of the product tris(hydroxymethyl)aminomethane produced from the combined postreaction liqs. was 93.7% (of the theor. value).

ACCESSION NUMBER: 1991:130228 CAPLUS
 DOCUMENT NUMBER: 114:130228
 TITLE: Method of regenerating Raney **nickel** catalyst for **reduction** of tris-(hydroxymethyl)nitromethane
 INVENTOR(S): Tadeusz Politechnika Slaska, Pol.
 PATENT ASSIGNEE(S): Pol., 2 pp.
 SOURCE: CODEN: POXXA7
 DOCUMENT TYPE: Patent
 LANGUAGE: Polish
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PL 138692	B1	19861031	PL 1983-245531	19831230
PRIORITY APPLN. INFO.:			PL 1983-245531	19831230
OTHER SOURCE(S):			CASREACT 114:130228	

L30 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AB The resistance of Ti alloys to corrosion in the presence of Cl-containing **amine** in a H atmospheric (Treseder and Miller, CA 45, 6985f; McQuillan, CA 45, 6033c) was exptl. investigated. A series of tests was carried out under the conditions of catalytic **reduction** of nitro-chlorobenzene to chloroaniline (USSR 166,037, CA 62, 10368c) at a H pressure of 200 kg./cm², <200°, and Cl- content in the catalyst zone of approx. 3 mol. %. A sample of 12Kh5MA steel under these conditions was decomposed in 9 hrs., the Cr-Ni-W steels were badly corroded after 90 hrs., while high-quality stainless steels lasted 253 hrs.; the resp. corrosion rates were 19.7, 2.2, and 0.15 g./m.² hr. Four types of Ti material showed no corrosion after 100 hrs. In more prolonged tests over 1700 hrs. of the same reaction at 140° and 200 kg./cm.² H pressure, practically no mech. changes were observed. Full details of these tests are tabulated. A study of the microstructure of a reactor wall made from VTl-1 Ti after 2 years under the conditions of the nitrochlorobenzene **reduction** showed the absence of Ti hydrides. At the Cl- concentration increased to >20 mol. % the same material was corroded in the area of previously made incisions after 5500 hrs. of exposure. An exptl. reactor was made from a 30KhMA steel, diameter 30 mm., height 1.5 m., having a 3-mm. thick VTl-1 sleeve, and the thermal zone, catalyst separating sieves, and other details made from Ti materials. The reactor was used under the above conditions for >3 years. To investigate the effect of the catalyst **regeneration** conditions, 3-mm. thick samples of the VTl-1 Ti were exposed to 15-hr. periods at 325-50 and 350-450° to the action of H at 200 kg./cm.² pressure, followed by a temperature drop to 200°. In both cases hydrides of Ti were formed, and the Ti material was disintegrating.

ACCESSION NUMBER: 1966:402648 CAPLUS
 DOCUMENT NUMBER: 65:2648
 ORIGINAL REFERENCE NO.: 65:438d-f
 TITLE: The use of titanium for apparatus for chloroorganic synthesis in a hydrogen atmosphere
 AUTHOR(S): Antonovskaya, . E. I.; Pozdeeva, A. A.
 SOURCE: Khim. Prom. (1966), 42(4), 304-5
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian

L30 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AB See U.S. 2,671,763 (C.A. 48, 6620b).
ACCESSION NUMBER: 1954:50635 CAPLUS
DOCUMENT NUMBER: 48:50635
ORIGINAL REFERENCE NO.: 48:8990d
TITLE: Catalyst regeneration
PATENT ASSIGNEE(S): Allied Chemical & Dye Corp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 702018		19540106	GB	

L30 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AB A catalyst comprising NiS associated with a substance of the group consisting of activated Al₂O₃ is regenerated by treating the partially spent catalyst with a gas containing O at about 300-700° until all carbonaceous deposits on the catalyst have been removed and without any intervening sulfiding step. The oxidized catalyst is treated with a gas containing H at about 200-700° until the catalyst has been reactivated. The process is applicable to regenerating the NiS-Al₂O₃-type catalysts used in the catalytic hydrogenation of aromatic nitro compds., particularly the vapor-phase catalytic hydrogenation of PhNO₂ to PhNH₂.

ACCESSION NUMBER: 1954:36975 CAPLUS
DOCUMENT NUMBER: 48:36975
ORIGINAL REFERENCE NO.: 48:6620b-c
TITLE: Catalyst regeneration
INVENTOR(S): Winstrom, Leon O.; Harris, Wm. B.
PATENT ASSIGNEE(S): Allied Chemical & Dye Corp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2671763		19540309	US	

L30 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
AB Hydrogenation-promoting metals such as Ni, Cu and Co are separated in finely divided form from aqueous solns. of their salts by the use of Fe, Zn and Al (which may be effected in the presence of a non-metallic carrier such as kieselguhr, silica gel or charcoal) and the catalysts thus prepared may be used in the hydrogenation of aromatic hydrocarbons or their derivs. such as toluene or phenol, in the hydrogenation of unsatd. compds. such as cinnamic acid or fats in the production of alcs. from aldehydes and ketones, conversion of quinones to hydroquinones, and in reduction of nitriles, nitro, azoxy, azo and hydrazo compds. to the corresponding amines (these reactions may be effected in the liquid phase and at comparatively low temps.). If the solution from which the catalyst is prepared is alkaline the oxide of the more electropositive element is deposited and serves as an activator. The catalyst may be dried in vacuo or in a current of H before use.
ACCESSION NUMBER: 1928:29848 CAPLUS
DOCUMENT NUMBER: 22:29848
ORIGINAL REFERENCE NO.: 22:3500b-d
TITLE: Catalysts
PATENT ASSIGNEE(S): I. G. Farbenindustrie AG
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 281218		19261127	GB	

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

733.25

912.28

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

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-191.80

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